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THE
FRIEND OF AUSTRALIA;

OR,

A PLAN

FOR EXPLORING THE INTERIOR

AND

FOR CARRYING ON A SURVEY OF THE WHOLE CONTINENT OF

Australia.

BY A RETIRED OFFICER
OF THE HON. EAST INDIA COMPANY'S SERVICE.

SECOND EDITION.

ILLUSTRATED WITH A MAP OF AUSTRALIA, AND FIVE PLATES.

LONDON:
SMITH, ELDER AND CO. CORNHILL.
BOOKSELLERS TO THEIR MAJESTIES.

1836.



TO
HIS MAJESTY'S PRINCIPAL SECRETARY OF STATE
FOR THE COLONIES,
AND TO
THE NOBLE AND WEALTHY FRIENDS OF AUSTRALASIA.

The following Work
IS MOST RESPECTFULLY ADDRESSED,
BY THEIR MOST OBEDIENT AND MOST HUMBLE SERVANT,
THE AUTHOR.

PREFACE.

“Enterprises undertaken on a large scale benefit all the sciences.”

THE country, for the examination of which, the following Plan of an Expedition is offered, affords to the politician, the philosopher, and the naturalist, so many considerations of calculation, wonder, and excitement, that it well deserves to be recommended by a more eloquent pen. The Author's motive for taking up his, arises out of his disappointment, in having waited some years, hoping and wishing to see the subject of Australian discovery and geography taken up by some *Indian* Traveller better qualified for the task than himself, but no one has come forward for that purpose ; and

considering that an attempt, however humble, to shew the practicability of exploring and carrying on a rough survey of the whole interior of Australia, with comparative safety, would be received by the friends of that country with indulgence; he entered upon the task with some degree of confidence; assured that, next to the Australian Traveller himself, no one could be better qualified, or could do it with more propriety, than he who has travelled in the wild and difficult parts of India, through jungles without roads, tracks crossed by bogs, dense forests, stupendous mountains, inundated lands, dangerous quicksands, &c. ; for, although the traveller will generally find good roads, villages, guides, and other luxuries in India, the Author's romantic and adventurous turn of mind, induced him to deviate out of beaten tracks when (travelling by himself) it could be done without impediment to the public service.

The discovery of the embouchure of the interior waters, of which the author has individually always entertained a well-founded hope would be solved on the north-west coast,

is well worth the expence of several land expeditions. It is quite clear also, that, from the dangers which Captain P. P. King encountered, and escaped by his own well-judged measures, it will ever be an impossibility, the surveying or acquiring a very minute outline of several parts of the north, north-west, and west coasts ; particularly the bluff, precipitous, and cliffy portions of the latter, off which, in case of thick weather, dark nights, and sudden gales of wind, among so many breakers in every direction, there is no refuge or port to flee to, the only anchorage on that coast being in Shark's Bay : and that nothing but land expeditions can accomplish this desirable and interesting object.

There is no country on the face of the terra-queous globe so difficult, but what a party of British travellers, properly equipped, liberally supplied, and well defended, would make their way through, and the increasing interest that attends every fresh discovery in Australia, is a stimulus to fresh exertions ; but without such liberal supplies as private societies of travellers can never command, all such enterprises must

end in failure; witness the number of travellers who have been obliged, at different periods, to return for want of provisions. “ Messrs. Blaxland, Wentworth, and Lawson, returned home only *for want of provisions*, from their discovery of the transalpine country of New South Wales, in which attempt six other travellers had necessarily failed.” On the 23d of August, 1817, Captain Oxley says “ *the last allowance of our provisions* was now distributed,” and as he and his party did not arrive at Bathurst until the 29th, they had to depend on the success of their dogs for additional supplies for those six days! Again, the Australian newspaper of the 22d of August, 1828, says, “ An attempt has recently been made by Mr. Thomas Jamison and a party, to gain some information of the lake or inland sea. Mr. Jamison penetrated, in a north-westerly direction, to a distance of eighty miles beyond Capetey, when the Indians informed him that he was within two days’ journey of the lake, but *want of provisions* compelled the travellers to return.”

These few instances are enough to prove, that it will be vain for any party of travellers or

surveyors to perform any lengthened research or continued services far in the interior, without some systematic supply of provisions, which can only be done by establishing a chain of dépôts or stations (of course changeable at the desire of the party to suit their altered course) as described in this work, and agreeable to which, the author would pledge himself to produce a rough survey of the whole interior in twelve or fourteen years, did his health and strength permit of his undertaking it.

The plan here offered is a practical scheme, and not a vain theory which could not be put in practice; and it will serve equally well as a guide and book of reference, to a numerous or a small party of explorers. The author has brought together, under one view, a number of useful and tried expedients, most or all of which are, at this day, in constant use in eastern countries, and therefore particularly adaptable to the country and climate of Australia, where, if the traveller has occasionally to complain of the want of forage and fresh water, there are at least no Bedouin Arabs, or hovering parties of Indian horse, to cut off the convoys of

provisions or disperse the expedition. He has also taken the liberty of introducing short extracts from various authors, wherever they might be thought appropriate to the subject, which he hopes their respective owners will forgive.

In order to simplify the nomenclature of the Southern Continent, and in some measure to write in accordance with the custom and wishes of the colonists; the island of Van Diemen's Land is called the "Island of Tasmania," or simply "Tasmania." The continent is called "Australia;" the eastern half, commonly called New South Wales, is called "Eastern Australia;" the western, or New Holland, "Western Australia;" and the continent, with all the contiguous islands in its surrounding waters, is called "Austral Asia."

Its unlearned style, the Author hopes will be treated with lenity by the indulgent critic, his profession having led him to more arduous services than that of the acquirement of literature, during the early and best part of his life. But if it should succeed in awakening enquiry, in drawing forth more suitable plans for the

enterprise, or in being instrumental to setting one on foot, the author will not regret his having presented this edition to the notice of a scientific public, and of once more, urging his countrymen to the consideration of so interesting a country.

The recent discovery of the embouchure of the rivers which descend from the Blue Mountain ranges in Eastern Australia, on the south coast, by Captain Charles Sturt,[†] has, it is supposed, solved the question of any communication with the ocean on the north west coast; nevertheless, it is still judged by experienced geographers that there must be some large stream or channel in the interior of Australia, which pours its mass of waters into the ocean somewhere in the neighbourhood of Roebuck Bay, on that coast; and thus the hypothesis of an interior navigation for vessels of considerable burden, is still an open question, and a question of the greatest interest, connected as it is, with the best of Britain's colonies. Should such an event ever prove to be the fact, it is impossible

[†] Vide — "Two Expeditions into the interior of Southern Australia in the years 1828—31, &c." London, 1834.

to contemplate the magnitude of population civilization, and wealth, that that present wilderness must rise to, without feelings of intense desire for its accomplishment.

Solicited by his friends therefore, the author is willing not to let the subject be forgotten, and trusts, that, both Government and the scientific bodies, will now unite for the furtherance of so laudable an object, as the laying open the geography of Australia, to the long tried patience and wishes of the British Public.

Siberian Wilds,
March, 1836.

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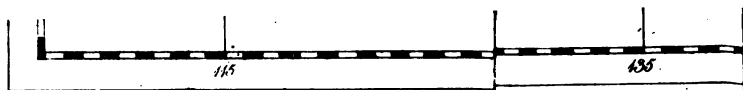
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THE
FRIEND OF AUSTRALIA.

INTRODUCTORY OBSERVATIONS ON THE IMPORTANCE OF
SURVEYING THE INTERIOR OF AUSTRALIA, &c.

ALTHOUGH large accessions have been made to our general stock of geographical knowledge within the last thirty years, and enterprising travellers have spread themselves in every direction, yet there is still one great blank in the map of the world, staring Britain in the face with a look of askance and reproach :—the continent of Australia, so interesting in its topographical features, its strange productions, and its thriving English colony, seems peculiarly deserving of our attention. And considering the opportunities and advantages we possess, for forming expeditions for the exploration of its mysterious interior, (for exploring parties

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might be fitted out at Singapore, Malacca, Penang, Calcutta, Madras, Trincomallee, Mauritius, and at the Cape,) and the time which has elapsed since the first founding of the British settlement on its coast, the cause of science has been sadly neglected, in as far as it regards this most singular country, than which, it is allowed on all hands, no other has produced so many indigenous and rare productions.

The benefits, too, which flow from expeditions of discovery, are truly immeasurable; among which, the peopling of uninhabited countries with Englishmen is not the least: and should we, through the permission of Providence, cover Australia with inhabitants as we have done North America, and I suppose there is no man but would rather see it inhabited by an English-speaking population than by a foreign one; the reflection is a proud one, that two mighty empires sprang from the loins of Britain, and in future times the fact will be an unfading memorial of her greatness. This brings me to the consideration of the emigration question.

Little more than forty years ago the first English colony was settled in Australia, when many conflicting opinions on the policy and humanity of that expedition teemed in the literary world; but were the obstinate opposers of

that measure now alive, they would be sensible of the error of their short-sightedness.* In proportion to the increasing importance of that extensive and interesting colony, the prejudices and arguments of the present opposers of emigration, ought to give way to a conviction of the truth of its benefits; and instead of endeavouring to intimidate the poor from availing themselves of this resource, by publishing a long catalogue of imaginary dangers and difficulties (which sound truly ridiculous and silly in the ears of those who have resided in the colonies, and know them to be false or foolish); instead of endeavouring to put a stop to emigration, and thereby keep our overflowing and suffering poor population at home, to shiver through our severe and dreadful winters, to fill our workhouses, to live in dirt and wretchedness, or to perish for want of food and coals, seeing that there really is not half work enough to give them all employment, nor ever can be while England remains at peace with all the world, and her army and navy reduced to a mere brigade and a single squadron,—the opposers of emigration will, it is to be hoped, with true British candour and liberality, ac-

* Similar, and equally futile, are the arguments that are now set forth against emigration, to what prevailed at that period.

knowledge its manifold and great advantages; both to the mother country and to the emigrants; and will come forward with the unbounded hand of charity, to help our willing enterprising poor to avail themselves of this unfailing resource.

Some writers urge against emigration, the dreariness of the country to which the emigrants are proceeding, in pathetic and effeminate strains like the following,—“ Poor creatures, one cannot view them driven from their native clime to waste their lives in *howling wildernesses*, without the sigh of sympathy !”—Poor frightened foolish writers; did you but know the beauty of these wildernesses, as they are strangely nicknamed; their unmolested novelties, their curious feathered tribes, and the exhilarating feelings which all these circumstances united, awaken in the mind of him who first treads or settles beneath their shades; your mouths would be filled with praises of the Most Highest, and your pens would be employed in encouraging your poor fellow-creatures to go and enjoy, what perhaps your own professional pursuits in England will ever preclude you from the hope of.

Other writers there are, who deprecate the interference of Government in the emigration of the poor, by granting the stimulus of parliamentary bounties; and they think that the legislature ought not to adopt a permanent

system of policy with reference to the sufferings or exigencies of a particular season. But, alas! at what period since the great increase of population, are the poor of England free from suffering and want of employment, except during a war? and when may we hope to see them in constant employment and comfort, without their numbers are diminished? Residing as I do, in the centre of the manufacturing districts, surrounded by thousands of poor, and with the experience of the past and the present, I avow my presentiment (and I think the most sceptical would join me) that, unless the multiplication of our species could be stopped, which nothing less than making eunuchs of all the men could effect, that that day will never see the light in England, in which all the poor will have *constant* employment: it is impossible; and if we do not now adopt a permanent system of emigration, it will be forced upon us very soon, and that, too, with a voice that will be heard. As to the idea that voluntary emigration is incompatible with the grant to parochial authorities, of the power of sending their poor to the colonies, it is not founded in reason or fact; because, in the first place, the poor are generally eager to quit the country in which they undergo so much severe suffering; and secondly, we well know that a poor man will not allow himself to be put on board ship against his will, unless he

were chained and handcuffed; and the latter exertion of authority would be sure to raise around him a thousand defenders.

It is also a most egregious mistake for any one to say that we should be parting with, and sending out of the country the main-spring of our strength, our youth, who are to defend us in case of war. I wish to know, what difference the already thousands who have left Great Britain, have made in the great bulk of the population? None. Where are they missed?

Again;—the want of work is the cause that iniquity abounds; so universal is the fear of the want of employment, that hundreds of young men actually continue in, and prefer, a life of libertinage to that of marrying; seeing that those who do marry are so soon overwhelmed and struggling with difficulties to support a rising family; but if there was no fear of the want of work, there would be more marriages and more morality, and in consequence of the latter, more of the Divine favor shed upon the nation; for at present seduction and other blighting evils, stalk it bravely through the land. I lately saw a printed placard in the streets of Halifax, in which I counted no less than *sixty* names of men advertised to provide for their natural children!!!* And as to the jail lists, they are

* Does not this shew the impolicy and wickedness of preventing the poor from marrying.

grievous to see. . . . But an increase of marriages, by increasing morality, would also greatly multiply population, creating a still greater excess wherewith to strengthen and people our distant settlements. But perhaps our oppositionists would say, this was weakening the British Empire.

The extraordinary and unlooked-for position, in which Eastern Australia stands at this day, a thriving infant empire, sprung for the most part from the mere superabundance of our distressed fellow-creatures, many of whom were driven to a breach of the laws of their native land for want of employment, but now, comfortable, industrious, and in hundreds of cases, wealthy settlers, is a fact as gratifying as it is true; and it ought to be an encouragement to the Government of the present day, to follow it up with extensive and liberal improvements, the most necessary of which would be the granting FREE PASSAGES, *alias* paying the passage money on board ship, of voluntary emigrants to the colonies.

I see by the newspapers that our poor fellow-creatures are flocking over to the United States by hundreds at a time. Surely the Legislature should take some steps to put a stop to this desertion to America, in favour of our own colonies. For, while we see the departure of such willing emigrants to enlist under a repub-

lican government not famed for its friendliness to monarchical Britain, does it not become our bounden duty, not only to open new receptacles in our colonies, but to encourage these voluntary emigrants, by providing them with Free Passages, to emigrate for the advantage, and not to the loss of their native country.

It would be well done, if Parliament would sanction the grant of a liberal sum per annum, to pay for the passages of our willing emigrants, to Australia, without regard to age or sex, (I know it to be a fact, that even sickly, weakly, and elderly people, are more comfortable in a warm climate than in a cold one,)* for as labourers in that colony become every year more and more scarce, in proportion to its extension, our unemployed poor would be always sure of immediate service; but that there might be no disappointment on that head at the instant of their landing, nor the want of an

* Although the Author would not put Australia, as a warm climate, on a par with India, which latter country is hot throughout the year; yet he must say in fairness, that it was a long course of unusually severe military services which has disabled him and obliged him to retire from the army in that country, and not the climate. Colonization is not, and ought not to be permitted there, or he would return. If colonization were permitted, no earthly authority could prevent the poor, peaceable, and timid inhabitants from being goaded by the most hellish tyranny from white men; for there are many who are actually afraid of complaining.

asylum, the local governments might be instructed to keep a commodious empty barrack, for the sole purpose of lodging all free passengers under the parliamentary grant, who, on their arrival at Sydney or Hobart, should be received by a sergeant, and conducted by him to the barrack, and there be lodged and allowed government rations free of expense to themselves, for a period not exceeding three months; by which time, and perhaps long before, all would have disposed of themselves in various directions. Or the legislature might constrain parishes to pay the passage money of any of their respective poor, who might on enquiry be found willing to emigrate; their lodgment and rations on first arrival, being arranged as above hinted at.

But to resume the subject of exploring Australia; much surprise has been expressed at the neglect shown by the British Government to this interesting country. Let us now hope that the time is come for both our own and the continental governments to see the utility of promoting with a liberal hand, the adventurous explorations of enterprising travellers; for the researches of private individuals must necessarily be circumscribed in extent, without public patronage and assistance.

The frequent changes in the Ministry of late years, and the engrossing nature of European

politics, seem to have absorbed every thought ; at the same time that public men have not remained in their places long enough to put in execution any plans that might have been formed ; and successors to office too frequently possess diametrically opposite views and interests to those of their predecessors. Now that we are at peace with the whole world, it is to be hoped that a portion of the public attention will be bestowed upon the interesting investigation of this continent. It is a slur on our character, as a powerful and enlightened people, having possession of a continent so singularly peculiar in its physiology and productions, and continuing neglectful and ignorant of its geography and resources ; while on the contrary, a scientific expedition confers eternal honor on the authors, gratifies the curiosity of the public, and benefits the world.

Let us not imitate the Spaniards who founded the first Spanish city, St. Michael, in Peru, in 1531, and kept the geography of South America a secret for nearly two hundred years, until De la Condamine voluntarily explored the Amazons' river in the year 1737, and gave the first correct map of its course ; for the journies and narratives of D'Orellana, Texeira, and even Péré Fritz were made up of fiction and inaccuracy. Neither let us procrastinate the honorable distinction of being the first interior discoverers and

christeners of Terra Incognita. Delay is dangerous; we may be superseded and have the palm snatched from us by a foreign nation of more enterprising genius. Louis the 15th sent a scientific expedition to South America, composed of eleven men of science with attendants amounting to the number of twenty-five persons, at the very time that he was engaged in extensive warfare. France still cherishes the genius of geographical discovery;* she still possesses her learned men. Should the French Government send a similar expedition to traverse Australia; it is to be hoped that its instructions will be to penetrate the country from some other coast than that of the Eastern, which, being already in the possession of English colonists, the survey thereof belongs properly to them.

From what we already know of Australia, there seems to be every reason for believing, that a party exploring the interior of that country would not have to encounter the hostility of powerful and populous Indian towns, as De la Condamine did in South America, nor scarcely have to undergo the innumerable difficulties, privations, and dangers of that intrepid French-

* Under Divine Providence, it appears that France is destined to develop the interior geography of Africa. The success of René Caillié is a good omen. May his name be the watch-word, and spur to others, to follow his example.

man; but what that *interior* consists of, it is almost premature even to conjecture, so little light upon the subject have we been able to collect from the aborigines. Some think the evidences are strongest in favor of level sandy deserts or rocky and barren tracks, without water or vegetation of any kind; others imagine a vast lake or Mediterranean Sea occupies the centre of that country; but the hot winds complained of by Capt. P. P. King at Curlew river on the west coast,* are an indubitable proof of there being no inland sea in that direction; at the same time that they are no proof of the interior being one vast sandy desert. If there was such a sea, the breadth of land between it and the ocean would be too small to have such an influence on the winds, independently of the moisture which we may naturally suppose would ascend into the atmosphere from such an expanse of water, and cool the winds. That they are no proof of the barrenness or sandiness of the interior, I may be allowed to argue from my own experience on the Coromandel coast, and from what I have learnt of other parts of India of corresponding latitudes with Australia.

At Careening Bay on the N.W. coast, at the latter end of the dry season, Capt. King found

* Narrative of a survey of the inter-tropical coasts of Australia, vol. i. pages 31 and 33.

the mercury in the thermometer ranged between 94° and 98° in the shade, and once it stood at 101° in a sea breeze. On another occasion at Cygnet Bay, in February, 1822, the mercury rose to 125° when exposed to the sun; this period was attended by several severe thunder-storms and torrents of rain. But I think I can remember it at 130° in the Carnatic in the month of May, the season that the lamented Major Little was killed by a *coup-de-soleil*.

The great resemblance of the outline or outward conformation of the continent of Australia to other continents, is a strong argument in favor of its possessing an interior equally as diversified as that of other continents.

“ Its southern extremity, if we include Tasmania, has a remarkable similarity to the southern points and extremities of other continents; thus the Cape of Good Hope presents a high, bleak, rocky point; Cape Comorin, the southernmost point of India, and Cape Froward, in South America are of the same nature. Each of those Capes seems to be the extremity of a high range of mountains running northward; which in Australia present the same appearance, but merely with a break in them at Bass's strait, which is again very similar in its nature to Magellan's strait. America has the Andes running north and south, and ending at Cape Froward, but more properly, extending beyond

Magellan's strait to Cape Horn. The high rocks of the southern extremity of Africa, are continued by a range of lofty mountains running in a direction north-east from the Cape. Asia terminates at Cape Comorin in a high rocky point, formed by the extremity of the chain of ghauts, and in the same manner the southernmost point of Tasmania exhibits a rocky elevated Cape, extending to the northward. But the resemblance between Australia and other continents is not confined to their southernmost extremities alone; they have all a great sinuosity on the west side, and one or more large islands to the eastward. Thus the sinuosity of America on its west side is evident about the tropic of Capricorn; that of Africa to the north of the line. The former has to the east of its south point, Terra del Fuego, Staten land, and the Falkland islands. The latter, Madagascar and several small islands to the N.E. of its southern extremity. There is also a slight sinuosity in western India, and on the east side of Cape Comorin is the island of Ceylon. The same circumstances are observable in Australia; the sinuosity in the outline of its western side being similar to that of Africa, and to the eastward of Tasmania lie the two large islands of New Zealand." The great Bight of Nuyt's land may be compared to the Bight of Benin; and Cape Leeuwin to Cape Palmas on

the western coast of Africa. A few months will perhaps furnish proof of the whole continent of America being surrounded by sea, therefore if Australia is to be styled an Island in consequence of its being surrounded by sea, so may America with equal justice; but I believe the question of its deserving the designation of continent is no longer disputed. Its external conformation and its immense extent,—being but little inferior in area, to the habitable part of Europe,—warrant the inference of its possessing as diversified a surface; and if there are desert tracks of large extent, there are also doubtless many highly fertile, beautiful, and, perhaps, curious portions of country, possessing novelties which the imaginations of the geographer and the traveller would never have anticipated. Let Britain secure to itself the honor of being the first to explore this mysterious interior, before her indefatigable continental friends set her the example.

I must here remark, that the figure of Australia on the map, according to Mercator's projection, is incorrect; for if it be compared with the figure on the same scale, on a terrestrial globe, it will be seen that the latter, which is the correct figure, seems longer and narrower than the former. This may occasion a misconception of its true figure to those

who, from inadvertence, might not recollect the principle of a Mercator's map.

“We have but a slight knowledge of the natural history of that continent, and yet no country has ever produced a more extraordinary assemblage of indigenous productions. The greater part of it is yet to be explored; an enterprise certainly presenting some difficulty and risk. The subjects in natural history, collected by Captain King, will shew how very desirable it is to increase the slender knowledge we have.” But the advantages of being acquainted with the interior, and of having a map of it, are manifold in other points of view, and must be more strikingly useful to British subjects than to those of other nations, although the ships of all nations are equally liable to be cast away on its hostile shores.

The thanks of the maritime public, as well English as foreigners, are especially due to the authors of Captain P. P. King's expedition of survey round those dangerous coasts. *Humanity*, as well as policy, pleads strongly in favour of its interior being explored and surveyed without loss of time; and, if necessary, it should be attained by force of arms.—I am a Christian, and yet I repeat the words, if necessary, it should be attained:

by force of arms.—Savages, whose hands are lifted alike against friend and foe, should be mastered by force: wretches, who assail the unfortunate sufferers from a wreck with the most barbarous cruelty, deserve to be treated with very little ceremony. The crews of more than one vessel lost upon the Australian coast have never been heard of; but if we may form any conjecture from the barbarous attack of the Indians on the unfortunate crew of the *Pandora*, they have been savagely butchered in the midst of their distresses, and perhaps begun to be devoured before life was extinct.

The coasts of Australia are inhabited by hostile and treacherous tribes of Indians, and with the exception of those portions in the vicinity of, or enjoying the intercourse of Europeans, are the most dangerous in the world for a ship to be wrecked upon, in common with a few islands to the eastward of that continent. There is too much reason for believing that these tribes are cannibals; and their incessant manœuvres to intercept Captain King's party, on different parts of the coast, as it were, with the intention of taking them alive, were of a very doubtful and suspicious cast. Should the unfortunate sufferers of a wreck attain the shore, what is the fate that awaits them? Nothing less than the most cruel of deaths can await any white man

escaped from a wreck,—probably that of being roasted *alive*! This may answer the query, why, on one occasion, they endeavoured to cut off the surveying party without spearing them, although they were within reach of their spears.

We know that the savages of America formerly roasted their human victims alive (*vide Asiatic Journal*, vol. xxv. p. 448); and instances of the same diabolical practice have within these few years occurred in Africa, where it is a common occurrence: it is, therefore, not at all improbable, that other black nations, having a relish for human flesh, should pursue the same mode of preparing it for food. Ought this to continue, year after year, on a land adjoining a powerful British colony?

But I will suppose the shipwrecked people to be treated with humanity; still, how are they to travel thousands of miles round a continent, or across it, without food, to reach the first European settlement? These are questions worthy the consideration of the only nation that already owns so great a part of the country, and possesses the power of adapting any remedy to the disease it chuses.

The remedy presents itself spontaneously to our notice, gathered from our experience in the south of Africa. It is to form penal settlements at the mouths of all the rivers, that may

be discovered round the Australian coasts, as well as at any other Ports or Harbours where fresh water is procurable ; and in order to bring on an intimacy with those tribes that inhabit parts of the coast far from any port or river, one or two strong penal settlements should be formed in the centre of that continent, of course dependent on the localities of the country, and thus take those tribes in the rear.

It would be a far severer and better punishment, than sending the hardened, incorrigible, and doubly convicted convicts to Norfolk Island, an agreeable thriving little Paradise. For, suppose such a colony as Sydney had been planted at latitude S. 23° and longitude 132°, the heart of Australia, in 1788 ; the farms would most likely have extended by this time to the vicinity of the north and south coasts ; inducing an intercourse (we would hope friendly) with the Indians, who now only know us as strangers, and thereby rendering the awful catastrophe of shipwreck on those coasts as harmless as it now is on the south-east coast of Africa, but which was formerly as frightful a disaster as a barbarous nation of Caffres could make it.

British intercourse with the Australian Sea multiplies every year ; we must therefore expect that some accidents will occur, and although seldom, it ought not to slacken proper

measures for rendering them less dreadful in their consequences. Under the above view of the subject, our ignorance of the interior is much to be regretted; and in proportion to the miseries and cruelties it may occasion to wrecked Europeans, and the advantages and resources we lose, so is a map of the country and an increased number of settlements the greater desideratum.

Captain Oxley has immortalized his name by the perilous undertaking of making the first advance of upwards of five hundred miles beyond the Blue Mountains, in 1817 and 1818, without any clue to the topography; or the most distant idea of the imminent risks the journey would expose him to: fortunately he met with no difficulties or dangers totally insurmountable, but the single one, of a very sudden and surprising inundation, at a time when there had been no rain to give him the slightest warning or time for preparation. He was providentially in the vicinity of a hill, but if he had been overtaken when encamped in the midst of a vast savannah, nothing could have saved him. His narrative has partly opened our eyes to the strange constitution of that strange continent; and, at all events, we know of one danger, which must be always borne in mind by every traveller and prepared for. He has paved the way for future explorers, and set them an

example worthy of being followed in all its varieties, of conduct to the aborigines,—penetration and courage in dangers, and devotion to the sciences. We have now some idea of what an Australian desert is, what an interior flood is, and what sort of population or hostility might be met with in future expeditions; for doubtless these circumstances will present themselves, and offer nearly the same appearances throughout that continent.

I shall advert to several parts of Captain Oxley's Journal to illustrate my plan: as the examination of the interior is impeded for want of navigable rivers, the plan of an expedition must be adapted entirely for marching; and let us hope that Government will no longer withhold from setting one on foot, efficiently appointed and systematically supplied with provisions, for the survey of the whole country; nor shrink from an expense so usefully and humanely laid out for the good of mankind.

An expedition, once on its march, would, in a very short time, gain sufficient insight into the geography of the centre, and judge of the resources they might meet with in a further advance, from what they had previously observed; and in the event of a total failure of forage for the cattle, well-timed convoys of grain and provisions, with reliefs for the military, might enable the expedition to remain

abroad, moving about in all directions for several years, or, if practicable, until the whole survey shall be accomplished ; new stations for receiving the supplies being successively fixed upon as the surveying parties advance, and the routes to and from the several depots being much shortened by an acquaintance with the country. I believe it possible to accomplish the survey of the whole continent in the above-mentioned manner, in the space of fourteen years, in the very teeth of two hundred savages, which is the greatest number I have ever heard of as a hostile body. I do not, of course, mean a very minute survey, but one that may be calculated to fill up the blank in the geography of this portion of the globe.

As a brief sketch of the mountainous and hilly parts along the coasts may be useful, to shew the probable places adjacent thereto in the interior, from whence streams may direct their course, or water may have collected in lakes and ponds, sufficient to afford drink for the cattle ; and as several remarkably interesting inlets and openings, deserving particular notice, have not yet been examined, the next chapter will point them out, in brief extracts from Captain P. P. King's, and Messrs. Flinders', Oxley's, Field's, and Wentworth's interesting works on Australia.

CHAPTER I.

PRINCIPAL UNEXPLORED INLETS, AND OTHER REMARKABLE
TOPOGRAPHICAL FEATURES ROUND THE COASTS.

THE most interesting spot on the eastern coast of Australia, and one which seems to demand primary attention, is a distinct break in the great range of mountains, of which Captain P. P. King speaks thus, "There is a remarkable opening in the range of mountains on the eastern side of Australia, about the latitude of 21° ."—This being the only opening in the mountains, and that of such a nature as to be called *remarkable*, together with Captain King's frequent view of it from different places, and repeated allusions to it;* it seems a pro-

* Although notices of the following places will be inserted in the text in their regular order, yet the following extracts will further shew the important interest attached to this spot.

"Behind Mount Upstart is Mount Abbott. A very evident break in the hills here would lead one to suspect the existence of a river, of which the bay on the western side of Mount Upstart may be the mouth. There is also a bay on

bability, almost amounting to a certainty, that a river bends its course through it from the interior, notwithstanding its *embouchure* is not visible to ships sailing along the coast. This *only* opening in the range of mountains is therefore highly deserving the speedy investigation of an exploring party. There is not another likely place for the course of a river coming from the interior, in the whole of eastern Australia but here. If such a river exists, its estuary will probably embrace numerous channels, severally reaching the sea at Broad Sound, Repulse Bay, Port Molle, Edgumbe Bay, Cape Upstart Bays, Rockingham Bay, another

the eastern side of the mount, which also has a river-like appearance: in fact, it is not at all certain whether Mount Upstart may not be an island, and the bay behind it the mouth of a considerable stream. The bay next Cape Bowling Green appeared to be equally promising in its appearance with those near Mount Upstart: the peculiar feature of Cape Bowling Green jutting out between the bays, considerably increases the probability of there being more than one or two rivers of importance hereabouts. The range of mountains which has continued uninterruptedly for a distance of 150 miles from the southward, here ceases or retires, and leaves a gap of low-land of ten or twelve miles wide. This remarkable opening or break in the range of mountains is about the latitude 21° , and the range is resumed and continued northward. The considerable track of low-land between the mountains and the sea, a distance of thirty miles, is possibly a rich country, and from the height of the hills it must be well watered."—P. P. King's Narrative, vol. i. page 189—vol. ii. pages 266 to 276 inclusive, also page 568.

Bay abreast of Frankland's islands, and Trinity Bay; none of these places having ever been explored.

The spot being so near home, (Sydney), the Local Government would confer a benefit on the geographical world, by establishing a temporary depot on the coast, as near Mounts Upstart and Abbot as possible; and while a small party of military might remain at the depot, another might march into the interior, with a sufficient supply of provisions, where, having attained the ridge of the highest mountain, commanding a view of immense extent, might return to the depot after an excursion of two months, in which a large fund of geographical knowledge would be collected, and the question respecting this interesting portion of the continent set at rest. *Vide Appendix A.*

But let us commence our notices of the coasts, beginning at Moreton Bay, and proceed northerly from thence all round Australia.

The Brisbane, a river of considerable magnitude, discovered by Mr. Oxley, discharges itself into Moreton Bay, and is three miles wide at the entrance. Mr. Oxley ascended it upwards of fifty miles, and found the depth usually from three to nine fathoms all the way; but at about twenty miles from the sea it is crossed by a ledge of rocks, over which there are only twelve feet at high water. The tide rises four

feet and a half at the distance it was explored, and it ran upwards of four miles per hour.

In consequence of his stock of provisions being nearly exhausted, Mr. Oxley could not devote any more time to exploring the river, but on ascending an eminence in its neighbourhood, he could distinctly trace its course for probably forty miles farther from where he stopped. The country, on the banks of this river, is described as being all around an undulating level, abounding with very superior timber; the soil rich and well covered with grass; not subject to flood, as the highest marks of it were not more than seven feet above the then level of the river, which was considerably within the banks. The river came from the south-west, and was at first supposed to be the outlet of the Macquarie marshes, being at no greater distance in a direct line than three hundred and fifty miles from them; but by recent intelligence from Port Jackson, we learn that Mr. Allan Cunningham had returned from his journey of discovery, which he pursued to the distance of three hundred miles due north, and had made no discovery of importance.

The question whether the Macquarie and the Brisbane are one and the same river is settled in the negative; but as Peel's river, is represented as a very fine stream, running in a di-

rection which affords a probability of its joining the Brisbane, it is still an interesting question, and the rise of the tide and the rapidity of the current of the latter, are strong evidences of its length of course, and of the great quantity of water which feeds it up the country. As the olive, the vine, the date, the sugar cane, the fig, also flax, tobacco, and fine wool, must be the future productions of the neighbourhood of the Brisbane, should that river and the Peel ultimately prove the same, and the ledge of rocks which crosses the former at twenty miles from the sea, be blown up, so as to open a passage for small vessels, particularly steamers of light draught, and the facilities of its navigation improved, it would become one of the most important and populous parts of the colony.

“As it was not intended that Captain P. P. King should make the survey of the East coast between the Percy isles and Torres strait,—a distance of nine hundred miles,—he did not examine every bay or opening that presented itself, which, from the appearance of the coast, and its general fertile and mountainous character, he much regretted.” There is, then, still a chance of discovering the *embouchure* of some unknown great river, on that coast, “as there are many and extensive openings, the most interesting of which are in the neigh-

bourhood of Capes' Gloucester, Upstart, and Cleveland; where the intersected and broken appearance of the back hills presents strong indications of rivers or streams well worth reconnoitring."—*Vide* P. P. King's Narrative of survey of the coasts of Australia.

Broad Sound is the first place that demands our notice, as it appears the most probable place for the *embouchure* of a river. The bottom of the Sound has not been seen.

Repulse Bay is a deep bight: the hills rise here to a great height; the bottom of the bight was not examined, but it is probable that a fresh water stream may be found. The tide rises eighteen feet. The Peak of Mount Dryander, opposite to and visible from Repulse Bay, is 4566 feet high, and the hills around are at least 700 to 1000 feet in height. The greater part of the water that collects on the East side of these hills, is probably discharged into Repulse and Edgecumbe Bays; but the streams at the West side of the range must run into the interior, or if they unite and have a course round the range to the East coast, they must form a large river. At the back of Mount Slade there is a high mountainous range extending to Mount Upstart, and between this range and the coast are several low ridges. In the neighbourhood of Repulse Bay, this mountainous range recedes, and from

the height of the hills the country must be well watered : there is a remarkable opening in this range at latitude 21°.

Port Molle, the shore of which was indistinctly seen, seemed to be very much indented, and to possess several Bays, if not rivers; for the land at the back is very high and must give rise to mountain, if not navigable, rivers.

Edgecumbe Bay, seventeen miles deep, and, at its mouth, fourteen miles wide, was not examined. If not swampy, the main must be a rich and interesting country.—*Vide* P. P. King's Narrative for the above and following paragraphs.

Cape Upstart is the extremity of Mount Upstart, which is visible for more than twenty leagues; this point separates two deep bays, of very inviting appearance, on account of the high and broken character of the gullies on each side Mount Abbot, and it was almost evident that they both terminate in a river.

Cape Bowling Green. The mountainous ranges seen from hence are at least thirty miles in the rear, and must furnish many streams and altogether a great body of water in the interior.

Cape Sandwich. At this place, Mount Hinchinbrook is so high as to be visible for eighteen leagues. The summit of the Mount

is seven miles in length from North to South.

Rockingham Bay appears to be a spacious Harbour, but was not examined. At the bottom there was an appearance of an opening. The Indians are friendly here.

Abreast of Frankland's islands, and near the south end of a sandy bay of six miles in extent, there is an opening like a river, that, from the appearance of the land, may be of considerable size. The high mountains to the southward, Bellenden Ker's Range, must give rise to a considerable stream. The land from hence to Cape Grafton is high, and shews several lofty peaks.

Trinity Bay. The shores of the bay were not very distinctly seen. At the south side and about seven miles within Cape Grafton, there is an opening that appeared to be extensive, and the mouth of a considerable stream, trending in between high ranges of land, in a direction towards Bellenden Ker's Range.

Cape Tribulation. The land behind this cape is so high that it may be seen at a greater distance than twenty leagues.

At Endeavour River, the interior presents a hilly appearance. As any further remarks on the east coast northward of this river can have nothing to do with the central parts of

the continent, we will proceed to Carpenter's Gulf.

On the mainland, to the westward of the Wellesley islands, is a range of hills. And low, wooded hills occur from thence along the mainland, to opposite Sir Edward Pellew's groupe. An expedition, on its approach towards these ranges from the interior, would be sure to meet with streams of fresh water.

From Limmen's Bight to the latitude of Groote Eylandt, the mainland is lined by a range of low hills.

On the North coast at Point Braithwaite, a continued range of rocky hills commences, called the Wellington Range, which is about ten miles behind the beach of the mainland, and extends twenty five miles to the westward. Five miles behind it, is a Tor, a solitary pyramidal rock, beyond which is a peak-topped hill. The two latter are apparently unconnected with the range, on which there are four remarkable ridges.

Five or six leagues in the rear of the eastern Alligator River is a range of hills, and behind the middle Alligator River are a few wooded hills and some groups of trees. The country thereabouts is sprinkled with wooded hills that extend in a straggling chain towards the Wellington Range.

On the north-west coast are some inlets on the south side of Clarence's strait, and one of considerable extent to the eastward of Cambridge Gulf, which require examination. That part of the coast also, between Depuch Island and Port George the Fourth, yet remains unexamined, the mainland being fronted by an Archipelago of islands. "If there is an opening into the interior of Australia, it must be in this neighbourhood. Whatever may exist here, there is something of importance, and it is not at all improbable that there may be a communication with the interior for a considerable distance from the coast."

The first interesting spot on the north-west coast is Patterson Bay, which appeared to be the mouth of a river, but was not examined.

At the back of Port Keats is a range of thickly wooded hills, which are probably connected with the Barthelemi hills behind Cape Dombey. Their summit is named Mount Goodwin. The Barthelemi hills is a range in the vicinity of Cape Ford.

To the south of Point Pearce there is a very extensive opening, thirty miles wide, which circumstances did not allow of being examined. The land at the back was indistinctly seen, but in one part there was a space of eighteen miles, in which nothing was visible. The strength

of the tide and other circumstances bespeak this opening to be of considerable size and importance.

The coast at the back of Lacrosse island is not only irregular in its outline, but of a more mountainous character than it is to the eastward. The country consists of irregular ranges of detached rocky hills, slightly clothed with shrubs, rising abruptly from extensive and low level plains, presenting a dreary appearance.

At Cambridge Gulf is a range of hills extending in unconnected patches towards Mount Connexion. The stems of some trees, of larger growth than any that were seen on the hills, were found washed up on the beach of Adolphus island in this gulf; an unequivocal proof of the *fertility* of the *interior*. The country at the bottom of the gulf appeared to be of a rugged and mountainous character. The hills are in detached ranges, and rise abruptly from a low level plain which extends to the shore. Over these plains were scattered the stems and branches of trees, that had evidently been washed down from the hills and deposited there by inundations, to which this part of the continent, in common with the rest of it, appears to be frequently subject. The trees appeared to be of so much larger size than any that were seen growing near the coast, that we may rea-

sonably conclude the interior to be of a much more productive character than the country in the vicinity of the sea. The rise of the tide was twenty-one feet, but at low tide the water was still salt, although sixty miles from the sea, notwithstanding which, I entertain very strong suspicions of this gulf being one of the numerous mouths of a large river, the bed of which being dry or reduced to a shallow stream, would not, of course, afford sufficient water to descend and cover the salt plains at the time that Capt. P. P. King was in it, it being the dry season (September), although it brought down with it large trees, and perhaps did other damage up the country in the rainy season, particularly as Capt. K. was not able to examine the extensive river at the bottom of the gulf that trended in a south-east direction under Mount Connexion.

At the back of the Bay, near Revelly Island, there is a gully in the hills which must produce fresh water. The coast here is slightly wooded, and to the south-east of Cape Londonderry, at the back of the beach, a gully in the hills appeared to promise fresh water, more particularly on account of the verdant appearance of the trees.

The coast between Cape Londonderry and Cape Voltaire appeared generally of so fertile

and mountainous a character, that Captain King mentions his regret at the necessity he was under of passing so hastily over it.

From the summit of a hill above Careening Bay, in Vansittart Bay, the view presents a series of barren stony hills divided by small sterile valleys clothed with stunted trees. And from the summit of Knight's hill, near Cape Brewster, (Vansittart Bay), a sheet of water was seen named Rothsay water.

At Port Warrender is a range of high, steep, and wooded hills, which must furnish several streams in the interior in the wet season.

Montagu Sound. In the north-east corner of this sound is Water Island, in latitude $14^{\circ} 21'$, and longitude $125^{\circ} 32' 25''$. It is remarkable that Captain King was never disappointed of finding fresh water on this small island in the driest seasons, when he could procure it nowhere else, during his several voyages; and although it has little or no connection with an expedition in the interior, it is worthy of notice here, among the list of remarkable places.

In York Sound is Prince Frederick's Harbour, at the bottom of which are Hunter's and Roe's rivers, bounded by irregular ranges of rocky precipitous hills, in many parts inaccessible; among which are three peaks, one named Manning Peak, the others Mount Anderton and Donkin's hill. Under these hills are the two

large openings or mouths of the rivers. Hunter's river was found to be blocked up by masses of stone at the distance of ten miles from its mouth at the bottom of the harbour. The hills there were ascended, but the view in every direction was obstructed by higher hills. The bed of this river continued through a deep gully between the hills, and in the wet season is doubtless a considerable stream. Roe's river was explored thirty miles up from its mouth, and was thought would afford depth enough to navigate a boat perhaps fifteen miles further. It appeared to be a very considerable stream, and from the very hilly character of the country, must send down a vast body of water in the wet season.

As this river was not examined higher for want of provisions, it is equally likely, with the other unexamined inlets, to be one of the numerous mouths of a large shallow river, which being only swelled during the rains, is necessarily very low at its entrance, in the dry season. The tide here rose rapidly twenty-four feet. This, or the Swan river, on the west coast, or any other river which may be discovered hereafter, having an *embouchure* over a sandy beach, or an impracticable barrier of rocks, I am led to imagine will be found, when better known, to bear a strong resemblance to several of our rivers in the south of India. The

Palaur, the Cauvery, the Krishna, and several others, are always shallow, and even quite dry in many places, during the hot season; but they are admirably calculated for the supply of small channels used in the irrigation of rice-fields and gardens: consequently towns and villages may be advantageously founded upon their banks on small eminences, and in the course of ages, they may become as populous as Seringapatam, Trichinopoly, Vellore, Arcot, and similar cities in India. It is only when the monsoon rains fall on the mountains, that such rivers are full; they then display strong and rapid streams, and if they cause any damage by overflowing, it is amply compensated by superior fertility, increased beauty of the country, and by the most delightful change in the temperature, the moisture cooling and refreshing the heated atmosphere.

Port Nelson. To the southward of this place is a high hill called Mount Trafalgar.

Prince Regent's river was examined for fifty-four miles up, but at the fiftieth mile a rapid, formed of blocks of stone, crosses it, above which the tide did not reach; but the stream continued to form a very beautiful fresh water river of two or three hundred yards wide. The tide rises here above thirty feet; it runs strong and sets at the rate of four and a half and five knots in the narrows. A considerable gully

joins the main stream, supposed to have the same source as Roe's river. And although at the end of the dry season, a considerable cascade was still falling into it from a height of 140 feet, fifty yards wide, which must be a magnificent object, and afford an immense body of water in the rainy season. The marks of great floods were noticed upon its shores, and the wrecks of very large trees were thrown up twelve feet above high water mark; which, as the surrounding country presents only a series of rocky hills and sterile desert, although the hills in its neighbourhood are rather more wooded than at Hunter's and Roe's rivers, must be a proof of the *luxuriant fertility* of the *interior*. So also must the quantity of water found here at the end of the dry season, be equally a proof of the *mountainous surface* of the *interior*. As this beautiful river could not be examined any higher, for want of a sufficient stock of provisions, as well as the want of more men for defence in case of an attack from the Indians, who, although not seen, might not have been far off, it rests in the same mystery as all the other many unexamined rivers and inlets. No one can pretend to say that these are not so many mouths of a large river; the volume of water in this river in the rainy season must be immense, and probably the character of a river winding through a sandy and rocky country in a climate go-

verned by a regular wet and dry season, like that of Australia, would resemble similar rivers in Southern India, that have a course of several hundred miles up the country, although not navigable.

Between Cambden Bay and Point Swan, a distance of ninety miles, the coast of the mainland forms a very considerable opening, which was not examined, the deepest part of the opening being from three to five miles wide. The greatest rise of the tide was experienced in the vicinity of Buccaneer's Archipelago, and at this place, where it rose and fell thirty-seven and a half feet. The direction of the tides here induced a supposition that the opening to the eastward of this bay was connected with a strait, and was also the outlet of a considerable *River* or bay.

So remarkable are the appearances at this spot, that our ancient navigator Dampier, was strongly of opinion that there was a very large river or channel of the sea, discharging itself into the Indian Ocean on the north-west coast of Australia, near latitude $16^{\circ} 50'$, among the islands there. (Buccaneer's Archipelago.) He had even, thoughts of exploring it, but was prevented at the time by the want of fresh water, which he was not certain of finding. He was induced to suppose its existence from the peculiar direction and strength of the tides in that

quarter, and thought it not impossible to find a passage through the continent to the great South Sea, the opposite extremity of the strait being hidden by islands or bars of sand which lie between Nuytsland and Tasmania.

The conjectures of that old seaman were deserving of attention, equally with those of Governor Hunter, who states in very plain language in his journal, his strong belief of a strait separating Australia from Tasmania, and assigned good reasons for that opinion, although, like Dampier's, they were slighted, and it was not until some time afterwards that Mr. Bass established the fact of a strait, which ought with more justice to have been named Hunter's Strait; as it was, in fact, only fixing the boundaries of what Captain Hunter already knew by long nautical experience must exist.

Captain King was unfortunately unable to survey this most interesting portion of the N.W. coast, so ill calculated was his brig, drawing eleven feet water, but not carrying sufficient water and provisions to allow of a long cruise on the station. He should have had a light steam vessel, drawing about five feet water, in which he could have penetrated into the most shallow inlets without danger; for he observed in several places evident breaks in the mountains which bore the appearance, if not strong presumptive proof, of there being a passage

between them for a river or stream. A few cargoes of coals might be landed on Water Island in Montagu Sound, and a small magazine of provisions established there, where they would remain undisturbed, and it would be an excellent situation for the steamer to resort to for fresh supplies.

But let us see what Captain P. P. King says further about this interesting portion of coast.

At Point Cunningham, is an opening thus spoken of. "From all that is at present known of this remarkable opening, there is enough to excite the greatest interest; since, from the extent of the opening, the rapidity of the stream, and the great rise and fall of the tides, there must be a very extensive gulf or water, totally different from every thing that has been before seen."

The land between Cape Leveque and Point Gantheaume, Captain King supposed to be an island. He also "thought there was a strait, communicating from Cygnet Bay to Collier's Bay, in which will be found an opening trending to the south-east. The great rise and fall of the tides in the neighbourhood of Point Gantheaume, gives a plausibility to this opinion; and further, that the numerous banks and channels existing there, are indicative of the opening being *something more than a mere bay*."

"Between Cape Villaret and Point Gan-

theaume is a deep opening, nine miles wide, the bottom of which could not be seen, and was not examined. Here the tide rose and fell thirty feet, and ran strong, which tends to prove the opening to be considerable. At an anchorage to the eastward of Cape Villaret, a still greater difference was experienced in the tide, the rise being sixteen and a half feet, from which there must be some interesting cause for so great an indraught of water into this opening."

I am much inclined to think, that the land between Point Cunningham and Point Gantheaume, which Captain King supposes to be insulated, is the noted Cloate's Island, the position of which has been so long disputed, owing to the careless or erroneous latitude and longitude assigned to it by former navigators.

At Point Coulomb the coast presents a verdant and pleasing appearance, and the interior rises to an unusual height at eight miles from the shore, and forms a round backed hill covered with trees. The hills are all wooded, and have a pleasing appearance. The smokes of fires were noticed here at intervals of every four or five miles along the coast, from which it is inferred to be populous.

Behind Depuch Island, the hills recede from the coast to the distance of fifteen or twenty miles, and form an amphitheatre, with some hills of considerable elevation in the distance,

which looks as if the coast trended in and formed a deep bay; but this still remains to be ascertained, as Captain King regrets that he was obliged to quit the place, and says it unquestionably presented a far more interesting feature than any part that he had previously seen. Towards Cape Lambert the hills approach the coast, and to the westward of that cape are two deep openings, the bottom of which was not seen; on the top of the hill of the projecting point that separates them, there are three remarkable rocky summits.

Nicholl's Bay may possibly have one or more streams fall into it.

The main land behind Enderby Island is high and rocky; and more to the westward a range of hills advances for fourteen miles in a N.W. direction from the interior, and reaches the bay near Cape Preston, when it extends eleven miles to the westward, and terminates at an opening one mile and a half wide.

On the south of Cape Preston in latitude 21° , is an opening of about fifteen miles in width, between rocky hills, which has not been explored.

Several salt lakes behind the sea shore a little to the southward of Curlew river, have a range of rocky hills behind them, which bounded the view from the mast head.

Captain King says, " Shark's Bay is the only

place on the whole of the west coast where a vessel can anchor with safety." This is a strong argument in favour of the establishment of a colony there, and the sooner the better. The reasons are too obvious to need explanation. The eastern side of Shark's Bay, opposite to the islands of Dorre and Bernier, seems to bespeak an interesting examination.

From Red Point towards Cape Burney, the interior presents a range of mountains of an unusual height for this side of Australia, probably one thousand feet high, and extending in length fifty miles, called Moresby's flat topped Range, terminated towards the north by the three Menai Hills, a detached group; and towards the south by another detached group, called the Wizard Hills. The summit in the centre of the range was called Mount Fairfax; and to the north of the whole is Mount Naturaliste. The coast here is of a pleasing and verdant appearance, presenting two openings in the beach, with an evident separation in the hills behind. From the more wooded character of the country, and the large smokes of the fires of the Indians in the vallies, it was supposed to be more fertile and productive than any other part of the west coast.

The coast towards latitude $29^{\circ} 5'$ is formed of high sand dunes, and in the interior a range of very high tabular formed hills was perceived.

At the back of the coast, near Island Point, is a rocky range, on which are Mounts Peron and Leseur.

Behind Jurien Bay the coast hills are rather high, and formed of white sand; but to the northward the shore is low, and continues so for some distance in the interior, towards the base of a range of tolerably elevated hills, on which are three pitons (peaks). This range extends in a N. by W. and S. by E. direction, and appears to be rocky. The intervening low lands displayed some trees and vegetation. Between this part and Rotnest Island no Indians' fires were seen; but as the hills in the interior, of which an occasional glimpse was had, seemed to be wooded, the Indians might subsist there by hunting.

To the northward of Cape Leschenault the coast still consists of sand dunes, and behind them several barren ridges.

To the north of Swan River, in latitude $31^{\circ} 37'$, the coast consists of high sand dunes, behind which a second range of hills was occasionally seen, on which the trees appeared to be of a moderate size.

Swan River.—This promising stream winds through a valley, its banks being alternately precipitous like those of the Derwent in Tasmania. The French examined this river for twenty leagues, or sixty miles, from its mouth,

and found it still to contain salt water! From Captain King's description of it for about twenty miles, its shoals, deep narrow passages, and slow current in the dry season, I perceive its resemblance to several rivers in India, and should suppose that, like them, it would present a great volume of water in the wet season, too rapid for the purposes of navigation.

Between Capes Bouvard and Peron the coast is low, but the hills appeared to be tolerably well wooded and of a moderate height.

On the south coast of Australia, a high ridge of rocky and barren mountains on the east side of Spencer's Gulf, is continued nearly from north to south, through a space of more than one hundred miles, between latitude $32^{\circ} 7'$ and 34° . Mount Brown, one of the summits of this ridge, about latitude $32^{\circ} 30'$, is visible at the distance of twenty leagues, and is three thousand feet high. The above range of elevated hills is at the top of the Gulf: from the summit of Mount Brown no rivers or lakes were seen; the view from this hill presented, in almost every direction, an uninterruptedly flat woody country, the sole exception being the said ridge of mountains. The coast to the eastward of this, as far as the entrance of Bass's Strait, is very sandy, low, and barren; and the country in the vicinity of the Strait is high, rocky, and sandy. In fact, from Encounter

Bay to Port Philip, in the Strait, the coast is little else than a bank of sand, with a few hummucks on the top, partially covered with small vegetation, nor could any thing in the interior be distinguished above the bank.—
Vide “ Flinder’s Terra Australis.”

Almost due north of King George Sound are some rugged mountains in the interior, so high as to be visible, though distant eighteen leagues. Of course they must be nearly 3000 feet high, and must send forth rivulets both north and south.

To the north of Point Hood there are some masses of tolerably high land, called West, Middle, and East Mount Barren, visible at the distances of ten, twelve, and fourteen leagues, from which also streams must descend into the interior.

Two miles to the westward of Lucky Bay is Thistle’s Cove, in which there is secure anchorage for one ship: and at less than a hundred yards from the shore is a lake of fresh water, one mile in circumference, from which a small stream runs into the Cove; but another stream descending from the hills, nearer into the western corner, would better suit the purposes of a ship. Here is wood for fuel, and the cove is a much superior shelter to Lucky Bay.

The whole coast from King George Sound to Capes Arid and Pasley, is, with little variation, low and sandy, the only exceptions being the

several promontories or capes, and a few high sand hills. The mountains and hills, wherever they occur along this portion of the south coast, are granite and varieties of the same stone, and the interior, as far as was visible, appeared very barren.

From Point Malcolm, a little eastward of Cape Pasley, is a bank of moderately high and level land, four or five miles behind the shore, slightly wooded, and running parallel with it, over which the tops of some barren looking mountains were occasionally seen: the most remarkable of these is Mount Ragged, nine or ten leagues N. W. of Cape Pasley.

This bank of level land continues from thence, and forms cliffs at Points Culver and Dover, the elevation of which is from 400 to 600 feet, and nothing of the back country could be seen above them.

Forty or fifty miles N. E. of Point Dover the cliffs are succeeded by a sandy shore,* which continues in a N. E. direction for nearly three degrees of longitude, and the same level bank of high land extends along its whole length at the back of the beach. In some places there is some wood, and in others the land is higher and recedes from the shore. Nothing of the

* Named in the map, "Ramsgate" and "Margate sands," &c. &c.

interior could be seen, but Flinders thought this might be owing to the haze. The smokes of the Indians were seen in several places.

In longitude 129° 9' the level bank of high land closes in with the shore and forms cliffs which continue the whole distance to the head of the great Australian Bight, a space of thirty three leagues. The total length of the level bank from near Cape Pasley, to Bight Head, is 435 miles, and the height of this extraordinary bank is nearly the same throughout; being from 400 to 600 feet.

Captain Flinders supposed the interior of this portion of the continent to be flat sandy plains or else water. I, on the contrary, consider the bank as an evidence of the country possessing high ground, and if high, so also low ground; and I am inclined to believe that at a certain distance from the shore, where vegetation is out of the influence of the saline air of the ocean, that the interior will be found to present the varied surface and fertility of the most southern parts of Europe. I have noticed the same levels (although of trifling extent) on the Concan, the Canara, and the Malabar coasts; and where is there a more lovely or more luxuriant back country than there.

At the head of the Bight, a sandy land rises gradually from the beach as it recedes into

the country, and at three or four miles inland is of moderate elevation, but still sandy and barren, and continues the same to Fowler's Bay and Point Bell.

Fowler's Bay is only useful to a ship in want of shelter, as there is neither wood nor water; but Captain Flinders saw the traces of Indians, and shot two teal, from which he supposed there must be a lake or pond of fresh water not far distant.

From Fowler's Bay the coast is broken into sandy beaches and small cliffy points, with a ridge of barren land extending behind it; but from opposite Isle St. Peter to Cape Bauer the shore is low and sandy, and nothing of the interior could be seen on account of the great haze. Many smokes were seen, and from the refuse floating on the sea, I should think that the numerous inlets hereabouts will prove to be the mouths of a river, but probably nearly choked up by sand banks. The country in the rear of Denial Bay, Streaky Bay, and Smoky Bay, must be very fertile; from the evidences of its great population in the numerous smokes; particularly the latter bay.

All the way to Point Westall, no hill nor any thing behind the shore could be perceived, but Flinders candidly acknowledged that it does not certainly follow that there are no hills in the back country, for the haze was

too dense to admit of the sight extending beyond four or five leagues (this was the 5th of February; the height of summer;) indeed the true horizon could not always be distinguished from the several false ones that this dense haze caused.

Quantities of grass, branches of trees, and bushes floated about in Smoky Bay; and numerous fresh water insects were seen out at sea, from which Flinders thought there must be a fresh water lake or stream not far from Denial Bay: *great quantities of teal* were also seen, a still stronger evidence of the existence of a *large extent of fresh water* somewhere.

These apparently trifling particulars may be very useful, and should be known by all parties attempting to penetrate into the interior, as it may lead to the discovery of, or a clue to the course of a river. Captain Flinders was only ordered to make a general survey of this coast; there is, therefore, still some hope of the mouths of a river existing hereabouts, although perhaps too shallow or too much obstructed by sand banks to be of immediate consequence to commerce.

The coast from Point Westall all the way to Coffin's Bay, is alternately low and sandy, or clifty with ridges of barren, and, in some places,

rocky hills of moderate elevation at the back of the beach ; several Indian smokes were also seen along this part of the coast.

On the east side of Coffin's Bay, the hills rise to a considerable height and are well covered with wood ; many smokes and two parties of Indians were seen here, but Flinders did not believe that any stream greater than a rill fell into the Bay from the back land.

The shores near the head of Spencer's Gulf are low, mostly covered with mangroves, and partly overflowed at high water ; the water was salt in the month of March.

Moderately elevated land extends along the west side of this gulf, but fresh water is only to be found by digging ; yet it is natural to suppose there must be rivulets descending from these hills into the interior.

This part of Australia is as well peopled as some of the populous parts of the eastern colony, which would seem to denote a fertile interior.

The foregoing extracts and remarks are a necessary part of a work treating on expeditions of discovery ; and will be found sufficient to indicate in what direction in the interior to look for hills or fresh water, (I mean, of course, not very distant from the coast), as well as to guess at the course of any rivers, or bearing and

direction of any ranges of hills that may be discovered. For more minute particulars of these interesting coasts I must refer the reader to the original works.

NOTE.—Flinders speaks highly of Investigator's Road, between Sweer's and Bentink's Islands at the bottom of Carpenter's Gulf. There is plenty of wood for fuel, abundance of fresh water, fish, and turtle, and shelter from all winds. This would be a good spot for an expedition to advance from into the interior of the continent, leaving the ship there until its return. The season most favourable to their operations would be in May, June, and July; and for a similar expedition from the south coast, September, October, and November.

CHAPTER II.

ON THE FORMATION OF A SURVEYING PARTY.

I PROPOSE to give in the first place a list or muster-roll of such individuals as I should recommend an expedition to be composed of; which, for a comprehensive scale of operations, I feel assured would not be found one too many, if the various objects, length of the journey, ignorance of the power of the central tribes of Indians, the numbers of small parties required to be constantly going to meet the convoys of provisions, and the extensive latitude of the surveys, be viewed in all their bearings, and which I intend to display as satisfactorily and plainly as the nature of the subject will admit.

When the lives of our countrymen are to be risked in an unknown country scarcely less dangerous than the unknown parts of the ocean were to the first circumnavigators; it behoves one to weigh with the greatest deliberation, all

the possible accidents that may occur from hostility of man, flood, famine, want of fresh water, separation, extremes of heat, wet and cold, and the most of all to be feared, general sickness.

We have hitherto heard of no wilder beast than the aborigines in Australia, and some of them certainly are most ferocious and treacherous beings on portions of the coast not enjoying the intercourse of Europeans. We know not whether there are any, or the same kind of people in the interior; but whether or not, a party destined to travel and carry on a series of operations in that interior, should be absolutely numerous enough to banish every degree of apprehension and anxiety for their own safety, and also well provided with every useful expedient to meet that and other accidents, and to accomplish the multifarious duties of the expedition.

Numerical List of Individuals of the Expedition.

A Captain of the Navy	Commanding officer	-	1
Two Lieutenants of the Navy	Assistants to ditto	-	2
Three Subalterns of the Army	On Military Duty	-	3
An Officer of the Royal Engineers	Surveyors to the Expedition	}	4
An Officer of the Bengal Army			
An Officer of the Bombay Army			
An Officer of the Madras Army			
A Surgeon to the Expedition	-	-	1
Two Assistant Surgeons to ditto	-	-	2
Three Botanists, One Mineralogist, and One Zoologist	-	-	5
Carried forward	-	-	18

Brought forward	-	-	-	-	-	-	18
Three Draughtsmen of maps and charts	-	-	-	-	-	-	3
Three ditto of landscape and natural history	-	-	-	-	-	-	3
Escort. Three Sergeants, Six Corporals, thirty-three Privates	-	-	-	-	-	-	42
Trades. Two Carpenters, Two Boatbuilders, Two Sawyers, Two Smiths, Two Coopers, Two Farriers, Three Chucklers, or menders of harness and other leather articles	-	-	-	-	-	-	15
One Boatswain, Three Mates, and Nine Sailors	-	-	-	-	-	-	13
Six Cooks	-	-	-	-	-	-	6
Total							100

The above list exhibits twenty-four of the commissioned rank, and seventy-six of subordinate rank.

In case of any accident happening to the commanding officer, the succession to the command of the expedition, might go by seniority of date of commission among all the naval and military officers, or another commandant might be sent out from England.

It may be necessary to explain the reason of my enumerating so many as one hundred individuals, which may appear an extraordinary number for a land expedition, and surprise the reader, until he is acquainted with the plan. But as the expedition should be permanently divided into three equal divisions or parties, although all subordinate to one head; and as each division is intended to act separately,

agreeably to my plan of operations, as set forth in a future chapter, it must be obviously necessary for each division to be sufficiently strong by itself to repel the attack of any tribe of Indians, at the same time that, in case of encountering a very numerous and hostile race in the interior, or towards Western Australia, the three divisions should unite, and pursue their operations in security and defiance.

Each division would consist of one naval and one military officer, one surveying officer, one medical officer, one draughtsman of maps, one ditto of natural history or scenery, and one or two naturalists, besides one sergeant, two corporals, eleven private soldiers, and a due proportion of the other attendants, making together about thirty-three people; a body calculated to be strong enough to split into several more small parties, where it could be done with safety, and the nature of the country to be surveyed, required it. For this reason the three naval officers should understand surveying, and lend their assistance on these occasions, when there would be seven gentlemen carrying on surveys over a great extent of country at one time.

Agreeably to the list, three officers should be charged solely with military duties, whether those duties be severe or easy. It would never answer the ends of the expedition to risk the

having the services of the surveyors continually withdrawn from their own duties to command a guard ; or when detached from the main body on survey, to have to defend themselves from the hostility of Indians and neglect the survey, when it ought to be the duty of others to protect them on that service.

The five naturalists, if educated to the medical profession, so much the better. Many clever young Scottish surgeons are sufficiently acquainted with natural history to fill an appointment to the expedition as naturalists, and still would be able to act in the double capacity of doctor and naturalist, in case of a numerous sick list, or of any accidents to the three medical officers.

An intelligent officer of the Honourable East India Company's service, from each of the three Presidencies of India, of the Quarter Master General's department, who has been employed on the surveys in India, would prove of many advantages to the expedition, on account of their previous intimacy with difficult countries, their being well seasoned to a hot climate, and the interesting observations and comparisons they would be enabled to insert in the journal, respecting Australia and India, of which we already know there are many striking similarities, particularly in Botany. In the latter there are the areca, the ficus indicus, and the fan-leaved palm,

all growing in Australia; and in zoology, the flying fox is equally an animal common to both countries. Many more instances might be mentioned, but it is not necessary to the present object. Perhaps an Indian Officer might discover some interesting resemblances in the rivers and geology of the country, and note down some useful observations thereon.

Every individual below the rank of the officers and men of science, should have the cattle to attend to, both in camp as well as on the route; excepting in cases of emergency, such as for instance, an attack from the Indians, for which the soldiers should always be prepared, and on the alert to unite at the hostile point. If the attack occurred on the line of march, the officers being mounted could soon collect them.

The soldiers, and in fact all the men of the expedition, should be picked out of a numerous body of volunteers for the service, the selection being founded on the basis of their sobriety, youth, size, and strength, (they should be tall and muscular, to be able to cope with the athletic races of Indians lately discovered by Captain King), seasoning to the climate, healthy constitution, aspiring young fellows; requiring restraining more than spurring on; distinguished for good conduct in the regiment, and especially for sobriety.

Independently of the tradesmen entered as such in the foregoing list; there should be a watchmaker; capable of repairing timekeepers and instruments, a shoemaker, a taylor or two, a tanner, a basketmaker, capable of plaiting canes and reeds for the basket-boats, a cabinet-maker or joiner, and a butcher or two, among the soldiers: and among the sailors, one or two ropemakers and tent or sailmakers. The utility of these classes will appear evident in the course of this work. Every individual should besides receive extra pay for the trouble of driving and keeping the cattle, from which it would be impossible to excuse any, notwithstanding their other professions.

The certainty of promotion on the conclusion of the survey, or on the return of the expedition, should be held out as the inducement to engage in it, or the liberty of being discharged from the regiment, and receiving an allotment of land in the colony.

No convicts ought to be allowed to go with the expedition, as the best of them are not to be trusted; for they would only steal and plunder the provisions or stores at every opportunity, which would occasion the employment of more sentries; contaminate the soldiers and foment quarrels and disputes; and in case of any disgust or supposed ill treatment, they might be tempted to form a conspiracy to destroy the

rest of the party in order to hinder themselves from returning to the colony, and thus occasion the loss of the journals, maps, surveys, and other valuable articles.

It would be the duty of the chucklers to keep the bullock-harness and saddle-bags in repair, as well as to see to the safety and perfect serviceableness of the basket-boats, the hides of which should always be repaired immediately after any little accident or rent they may receive on the journey; this should be attended to every day. The chucklers should also dress the hides of every fresh killed bullock, and have them packed and carried forward; they would be useful either to make more basket-boats, water bags, or to repair harness with.

So many accidents occur through unskilful management of boats and other kinds of craft on rivers and lakes by landsmen, that a party of sailors would seem an indispensable part of the expedition; they are, besides, a very useful class for many other purposes.

The officers and men of science should keep an account of their daily movements, remarking the distance of each day's progress, the nature of the country, its productions and soil, places for obtaining water in the dry season, eligible grounds for encampment, advantageous situations for the planting of settlements and commanding positions for the erection of forts; the

manners, language, and varieties of the aboriginal tribes, their disposition and numbers, &c., all of which would be best done in a diary or journal.

All the members of the expedition should be subject to the articles of war, the same as if it were a detachment or company belonging to one of his Majesty's Regiments of foot, and the commanding officer should be vested with the power of ordering courts-martial, and of inflicting punishments, for the due preservation of discipline and good order among so many.

NOTE.—It must be obvious to every body's understanding, that in so vast an unknown country as Australia, it would be the height of temerity for either a small or a large party to penetrate to the centre of the country without being backed both by reinforcements of men or reserves, and supplies of provisions; for instance, Captain Sturt might have continued his advance provided he had had enough men with him to leave a few at different stations in his rear, through whose means and directions, supplies of fresh water and provisions might have been forwarded to his party. Under this view of the subject I have calculated on the number of twenty-four gentlemen, that is, three separate parties of eight gentlemen each, to carry on operations in advance of each other at certain distances.

CHAPTER III.

ON VICTUALLING A SURVEYING EXPEDITION.

I MUST premise this and the following chapter by acquainting the reader that the plan of the calculations is taken from Mackenzie's "War with Tippoo."

In calculating provisions for an expedition to traverse a country totally unknown, where it is doubtful whether food and forage is procurable, either from the barrenness of the soil, or the want of civilized inhabitants, it is evident that food, not only for the men, and for the cattle employed in carrying provisions and stores for it, must be included; but also food, and the means of transporting it, must be provided for the cattle employed in carrying the food of the first loaded cattle.

The following details of provisions are only calculated for thirty days for the expedition; as a calculation for a longer period would but multiply figures to no purpose, at the same

time that nothing is easier than to order a double, treble, or quadruple supply to serve a given time, and to follow it up by forwarding any amount of supplies after the party, when once the route is known, by a regular series of convoys from depot to depot.

Flour and meal should be carried in preference to biscuits, as it packs closer, preserves better in wet weather, the damp forming a crust round it; and the bakers might bake biscuits on iron plates every halting day, sufficient for four or five days' consumption.

On occasion of detaching a small, lightly equipped surveying party from either of the divisions on an excursion of two or three days, its wine, spirits, or water might be put into goatskin bottles, as is the custom in Arabia. I have frequently had water kept in skins in India, and although not very agreeable at first, the prejudice is soon overcome.

Captain King bestows much praise on Donkin's preserved meats, a cannister of which afforded his party a good dinner, and prevented them from experiencing their usual excessive and distressing thirst; but this kind of provision would be too delicate for the number of strong appetites that might be mustered in a hundred men; at the same time, a sufficient quantity might be carried, to be served out to the expedition when in a part of the country where water was scarce; and salt provisions should

always be the order, when pursuing a route in the vicinity of lakes or rivers, or a country generally well watered.

Unhusked grain may be reckoned at full weight for cattle, but in being prepared for the food of men, it would lose a quarter of its weight.

RICE OR WHEAT.

Allowance of rice for each individual per day is one seer, or a pint and a half,* at which rate one hundred men will require, for thirty days 75 maunds.

The same quantity of wheat would amount to nearly the same allowance, but the same quantity of flour would last a much longer time, and is the preferable article of the three.

SALT PROVISIONS.

Allowance for each individual per day is one pound of salt beef or pork, or in lieu thereof, one and a half pounds of fresh beef. At that rate one hundred men will require, for thirty days, salt beef or salt pork - - 3000 pounds.

Fresh beef could only be issued when bullocks are killed expressly for that purpose, and that should be managed so as to happen when not in the vicinity of plenty of water.

LIQUORS.

Allowance of spirits is one gallon per day for forty men, which is a small allowance under any fatiguing service; the drams at that rate for one hundred men, for one day, will weigh thirty pounds including the casks, and for thirty days amount to seventy-five gallons; but as the duty would frequently be severe, the safest plan is to double the allowance at once, and say, for thirty days, - - 150 gallons.

* Forty-two pints of grain is equal to the English bushel. A maund is forty seers.

Wastage of spirits calculated at the rate of $2\frac{1}{2}$ per cent. for every 100 miles.

GRAIN FOR CATTLE.

Allowance of gram (cooltee) or grain of any sort to the cattle, at the rate of four seers per horse per day, and two seers per bullock or pony per day; at which rate twenty-five officers' horses, twenty baggage horses and ponies, and 777 bullocks, would require, for thirty days, gram or other grain, 1269 maunds.

OFFICERS' TENTS.

Officers' tents, twelve feet square, walls five feet six inches high, a strong bamboo in the cloth at each of the four corners, and bamboos in the cloth of the four ridges of the roof (no centre bamboo) *Rowtee* pattern. One tent a bullock load.

Three gentlemen to a tent	-	-	8 tents.
For the commanding officer alone	-	-	1

Total 9 tents.

OFFICERS' PRIVATE BAGGAGE.

Saddle bags for clothing, one pair each is twenty-four; camp stools twenty-four pairs, instead of cots or couches; sleeping carpets twenty-four; dinner tables four; one pair of saddle bags, a couple of camp stools, and one carpet, the load of one bullock.

TENTS FOR THE MEN.

A private's tent, of the old Madras pattern (which was incomparably more comfortable and airy than the new pattern), including the two upright bamboos and the ridge-pole, dry weight, is two maunds nine seers, or one bullock load.

Tents, twenty-five men to a tent, for 76 men, is 3 tents.

SURGICAL AND SURVEYING INSTRUMENTS.

Medicine chests	-	3	Pocket compasses	-	24
Theodolites	-	7	Surgical instrument chests	-	3
Large ships' compasses	-	3	Chains, sets	-	3

Miners' compasses	-	3	Pocket chronometers for	
Thermometers	-	3	the longitude	- 7
Quadrants	-	7	Cases of watch-makers'	
Time-keepers	-	3	and other tools, to re-	
Sextants	-	7	pair damaged instru-	
Barometers	-	3	ments	- - - 3
Cases of mathematical and			Boxes of phosphoric	
other instruments	10		matches	- 300
Sets of artificial magnets,			Boxes of colours	- - 13
in cases, for touching			Tin or brass tubes with	
the compasses in case			screw lids, for deposit-	
of accidents	- -	3	ing maps and drawing	
Day and night telescopes	7		paper	- - - 24

Also cases of pencils, drawing paper, India rubber, blank journals, charts of Australia, various books of expeditions and travels in hot climates, &c.

STORES AND AMMUNITION.

The stores and spare ammunition usually carried with a company of infantry would be sufficient for the expedition for a twelvemonth, and consist of, as follows :—

Pickaxes with handles	4	Vice and iron bench	2
Spades	- - 5	Bellows	- - 1
Iron	- - lbs. 14	Flints	- - 240
Camp reel with line	1	Charcoal	- lbs. 30
Coopers' adzes	- 1	Shotted cartridges for	
Felling axes	- - 4	mukets	- 2400
Sledge hammers	- 1	Gunny bags for the am-	
Claw hammers	- 3	munition	- - 2
Bill hooks	- - 4	Ditto for the tools and	
Crow bars	- - 2	stores	- - - 3
Steel	- - lbs. 5	Small tarpaulins	- 2
Files of sorts	- - 4	Saws, chisels, and planes	
Screw plates	- - 1	of sizes, extra	- 20
Hand vice	- - 1		

As many packsaddles and head-stalls as are necessary for the requisite number of cattle.

To the above I should recommend the following additional stores.

EXTRA STORES.

Shovels	-	5	Augers of sizes	-	5
Anvils	-	2	Hand flour mills, &c.	-	6
Beak irons	-	2	Funnels	-	4
Grindstones	-	2	Camp kettles	-	12
Gimblets of sizes	-	20	Canteens	-	76
Boat grapnels	-	10	Small anchors	-	4
Small pontoon chains	-	3	Small cables	-	2
Barrels of signal rockets	-	2	Puckaully bags	-	100

Perhaps, instead of puckaully bags, tin barrels of from twenty to thirty gallons each, would be the safest vehicle for the carriage of water in desert countries, two per bullock.

SUNDRIES.

Basket boats, seven feet diameter and two feet three inches deep	-	-	-	-	-	10
New canoes, each twenty-four feet long, or longer, with the necessary planks for a platform	-	-	-	-	-	2
A light deal mast, in three pieces, to serve as an observatory, with cross-trees and lower shrouds.						
Coats of mail	-	100	Oil-skin cloaks	-	100	

Oil-skin cloaks, in a tropical climate, would essentially conduce to the health of men who are obliged to be out in a continued torrent of rain, where such an article as an umbrella could not be held up; and in situations when, although drenched to the skin, no change of clothing could be resorted to until some hours afterwards. I have often much regretted the want of such an article, and wish it was become a fashionable part of our travelling wardrobe. I feel persuaded that whatever may be the figure a man would cut in an oil-skin cloak, it would be

greatly counterbalanced by the preservation from several painful diseases, especially dysentery.

As a tour in the interior of Australia would be too far out of the way to be reached by the shafts of ridicule, I should recommend every individual of the expedition to be provided with one.

Oil-skin cloaks, or mantles, might be either made of silk or of varnished waxed cloth. I should prefer the latter as being the strongest. They should be carried slung across the shoulders, in a small roll, during dry weather, on the march; and in wet, the great coat might be preserved dry under them, without the necessity of wearing such a cumbersome warm article of dress to walk or work in. These cloaks should be made loose and large, with sleeves, button round the neck and down the front, and protect the loins and upper part of the thighs from wet.

The coats of mail will, no doubt, also provoke a smile from the reader, but I must remind him, that it is the duty of a civilized people to adopt every expedient that may put it out of the power of uncivilized beings to provoke them to retaliation or the infliction of death. If an Indian spears one of us, we think we have a right, or are justified in shooting him; whereas the fault is on our side, and the murder lies at our door. We should seldom hear of an ignorant offending savage being shot, if the awful decree pronounced by the God of all

mankind was more generally known by my countrymen, "He that sheds man's blood, by man shall his blood be shed!"* If we get wounded by a ferocious, wild, ignorant savage, it is our own fault for not being properly defended, and so unconscious is he of evil, that, on the contrary, he receives praise from his tribe; neither has the law of God given us authority to inflict death upon him for an action deemed meritorious by his race. Of what use are all our inventions, sciences, and superiority, if we cannot find out a remedy or a preventative for every circumstance or occasion through life. Buonaparte thought it not incompatible with military honor to reintroduce ancient armour. Many Sheiks in Arabia travel with the caravans in complete armour, or carry a suit with them ready to put on in case of attack. It is still the custom in some parts of India, for the chiefs and followers of a prince to wear coats of mail on particular occasions. I dare say that Governor Phillip, and more recently the surgeon of Captain King's ship the Bathurst, and many more, would sooner have worn a coat of mail, than have received the dangerous and disagreeable wounds from spears which they did.

If an expedition should ever be ordered, for the purpose of surveying the interior of Australia, and I hope, for the honor of England

and its present popular government, that one will be ordered, I consider it next to an impossibility for it to proceed without encountering various unknown and perhaps mischievous tribes of Indians; and it may as well depart without its provisions as without defensive clothing, unless it were to act on the unchristianlike and inhuman system of the Spaniards, by shooting and exterminating the simple savages for every aggression.

Government should supply the coats of mail with the rest of the supplies: the coats should be of a tolerable length, nearly of the Rajah of Cutch pattern (*vide* Captain Grindlay's Western India), but instead of being made strong enough to turn a bullet, I should think that thin plates of copper, enclosed in very thick stout white silk, instead of linen, would be cooler, lighter, and sufficiently strong to turn a spear. The common strong silk of China would be good enough for the purpose.

Although the party should thus be in possession of coats of mail, they should understand that they are only to be worn when the commanding officer thought it necessary. They should always be kept in readiness, and extraordinary care should be taken of them at all times, whether in wear or in store.

The two canoes, or donies, as some people call them, are intended to be used as a jungar

is in Malabar, viz. on the expedition arriving at any water which must be crossed, they should be lashed together side by side, and a platform of boards laid across them, with a handrail round it ; in this way they make an excellent raft for the conveyance of baggage and cattle across broad rivers. It is astonishing to see the great burden a jungar (the name of this kind of raft) will bear, and the ease and safety attending it. Boats, however, strongly built, would never bear half the weight or be half so safe ; the great strain upon their sides would undoubtedly press them out and occasion them to leak if not break : whereas, the sides of a canoe being of one solid thick piece with the rest of the canoe, cannot give in any direction ; and the greatest weight or most dangerous current cannot sink them, when fastened together. (See the plate, 1.)

The use of the basket boats will be best exhibited by an extract from one of my own Indian Journals ; and their further use with the Expedition will be shewn in the seventh chapter, where it is intended to treat of inundations.

Extract from my Journal. " Camp, North bank of the Toombudra at Akapoor, near Humsaugor, 26th September, 1811. The boats here, are made like baskets, perfectly round ; and formed of strong plaited split bamboo or ground rattan, a pliant and stubborn cane, like

wicker-work or matting; the size of these basket-boats is between seven and ten feet in diameter, and two feet three inches deep or a little deeper; the sides are upright and the bottom flat, covered on the outside with buffaloe or bullocks' hides of the stoutest kind, sewed together with thongs or thin strips of the same, so closely that they do not leak when well soaked. They will hold about twenty men, armed and accoutred, with the greatest ease as to weight, although that number is rather stinted for room. Here are eight basket boats kept constantly going to and fro; they cross the river in five or six minutes, although it is at this spot about three furlongs, or half a mile wide, with a very strong and rapid current, swollen by the late rains. The left wing of the battalion was got safe over by tiffen time, and the right wing with all the families, followers, cattle, and baggage, crossed in the afternoon, and all were safe before night, with the solitary loss of one bullock drowned. The cattle were made to swim across in droves; and our horses were towed over swimming after the boats, but they occasioned us a good deal of trouble, as some would not swim; and our commanding officer's best horse took the sulks and lay like a log under the water, so that it required the greatest exertion on the part of

the men to hold up his head with ropes above the water to prevent him from drowning."

When it is considered that the battalion was complete and mustered eight hundred men, and the families and followers of all ages and both sexes amounted to more than twice that number, or more probably to between three and four thousand ; and the number of bullocks, horses, tattoo ponies, camels, sheep, &c. attending the battalion, it will be thought a good day's work accomplished without accident ; and shews in a strong light the utility of basket boats.

I have been told by an artillery officer, that he crossed his guns in these boats, each boat carrying a heavy twelve-pounder, care first being taken to strew the bottom of the boats with a bed of straw or long grass, small bushes, &c. and a platform over that, so as to prevent the gun from bearing harder upon one part than another. They are perfectly safe in the roughest water and most rocky stream, and will bound off or whirl away from all obstacles with which they may come in contact, without the possibility of upsetting, as an oblong vessel would. The only precaution required to prevent them from filling with water, is to be careful not to let any stick, or the leg of a chair, or table, from going through the hide at the bottom, and

this must certainly be strictly attended to. The ease with which they can be manufactured, repaired, and conveyed along with an expedition, needs no observation from me, but their usefulness in case of being surprised by a sudden inundation must be self-evident, even to those who have never seen or tried them.

The basket boats should all pass through an experimental trial at some river or lake near the depot, by being loaded with the complement of armed men and proportionate weight of baggage, and pushed along with bamboo poles. The members of the expedition should attend this trial in order to be acquainted with the management of the boats previously to their march.

It is customary for a brigadier to have a very lofty flag-staff in front of his tent, in a standing camp in India, on which the colours are hoisted, and it has occurred to me that a more extensive use might be made of a mast carried with an exploring party. Three deal spars, each about thirty feet long, might be contrived to fit together with cross trees so as to make a mast ninety feet high ; or the lower spar might be forty, and the upper one twenty feet in length, proportionate to their thickness. The lower mast might be raised every day with four ropes in the same manner as a tent-pole, and its foot might be secured, by slipping it into a

hole in the ground a few inches deep ; the other two masts might then be run up in the usual way and secured with light shrouds. The spars might be made very light, as they are not to carry sail, and only to bear one man at a time.

The mast would in numerous situations serve as a means of viewing the surrounding country, when devoid of trees and hills, and of discovering eligible routes for a succeeding day's journey, or rivers and pieces of water which might otherwise have remained unknown notwithstanding the most diligent search, and which would have been passed by, without a suspicion of any water being within reach. It might also serve to watch the movements of the Indians when in a populous country. Captain King says, " during the day, a *mast-head* watch was kept to prevent surprise, for the grass about us was so high that they might have approached unperceived, and wounded some of our people before we could have been aware of their presence."

I am aware that the principal objection against carrying a mast is the awkwardness of its length, but the three spars could with the greatest ease be slung between four ponies, two and two, a stick being placed across their saddles from which the burden might be suspended.

As any kind of wheel carriage could not

possibly accompany the expedition, each canoe should in the same manner be slung between four ponies. I mean, of course, the strong breed of ponies lately introduced into Australia. The platform boards would lie at the bottom of the canoes. (See the plate, 2.)

The tallest horses should be selected to carry the basket boats, two per horse; they should be slung upright, one on each side the animal.

It is a prevailing custom with travellers to fire muskets for a lost companion, but experience teaches us that a bugle horn is by far the best signal: each division should be provided with a bugle horn as well as each small party detached from a division.

One or two of the officers' tents should be cleared every day, for the purpose of constructing the maps, and to serve as offices for the reception of the surveying instruments and other scientific apparatus.

* * Having mentioned in the foregoing chapter the name of Donkin's Preserved meats, the following extracts of Testimonials in favour of this valuable invention, may appropriately be inserted here.

From Captain Basil Hall, to Messrs. Donkin and Gamble.

"I beg leave to acquaint you, that the meats, soups, and milk, which were prepared by you for me two years ago, and which I carried with me to China and the East Indies, all

turned out most excellent. During this voyage we were exposed to a great variety of climates, and many of the cases were stowed in such a manner as to be freely exposed to these vicissitudes of temperature, but not a single one out of the whole number, was found in the least degree injured.—H.M. Sloop, *Lyra*, Nov. 5, 1819.”

From Captain Sir W. E. Parry, H.M. Ship Hecla, Dec. 9, 1822.

“In reply to your letter of the 28th ult., I beg leave to acquaint you, that I feel it impossible to speak too highly of the preserved meat and soups prepared by Messrs. Donkin and Gamble, and supplied to H.M. ships *Hecla* and *Griper*, employed under my orders on the late Expedition for the discovery of a north-west passage.”

From Rear Admiral Viscount Torrington, D.C.L. and F.R.S.

“In 1813, I bought (going to the West Indies in H.M. ship *Warrior*) a considerable quantity of your meat. Amongst the articles landed from my ship in 1814, I this day (28th March, 1821) discovered two tin cases containing preserved veal, which I affirm to be in as high a state of preservation, as the day it was put into the tin case. Indeed, it had a preference to many dishes served up with it at my table. Also the vegetable parts were in flavour excellent.”

From Rear Admiral the Hon. Sir Henry Blackwood, Bart., K.C.B., Leander, Trincomalee, May 20, 1821.

“I approve so much of your preserved meats, soups, and carrots, that I request that you will find out, whether any man-of-war is coming out to join me, and if, on application from you, her captain will be so good as to bring me some more out, I beg you will forward what is noted on the other side, and the bill: and that on their reception on board you procure a receipt, which you will forward to me by letter.

“Messrs. Donkin and Gamble.”

From Sir G. Blane, Bart., F.R.S., Physician to the King.

"I have the greatest satisfaction of declaring, that having opened the above specimens (meat received in 1816) at different intervals of time, I have found them in the most sweet and palatable state; the last was only opened yesterday, and I found it not only in a state free from any sort of decay, but possessed of the perfect Flavour of the soundest and richest provision in its most recent state. It had been eight years in the tin case, having been prepared two years before it came into my hands."—March, 1822.

These preserved fresh provisions are sold by John Gamble, Patentee, (late Donkin and Gamble) Blue Anchor Road, Bermondsey, Southwark; or at No. 39, Clements Lane, bard Street.

LIST OF PRICES.

	s.	d.	
Fresh boiled Beef.....	1	3	per lb.
Ditto Harbour.....	1	2	
Boiled Mutton.....	1	9	
Mock Turtle Soup.....	2	0	
Soup and Bouilli (beef).....	1	9	
Gravy Soup..... for quarts	20	0	per dozen
Ditto..... for pints	10	0	
Vegetable Soup..... quarts	36	0	
Ditto..... pints	20	0	
Green Pea..... quarts	42	0	
Ditto..... pints	24	0	
Milk..... quarts	20	0	
Ditto..... pints	12	0	
Ditto..... half-pints	8	0	

* With a variety of other articles at reduced prices.

These patent provisions being *ready cooked* and without bone, render them nearly equivalent to double the quantity of meat in the raw state; as the waste in cooking and the bone are about *one-half*. And there is this great advantage attending them, viz. they may be eaten cold (being ready

dressed) or, if preferred, heated in a few minutes, which is of some importance when bad weather or scarcity of fuel render the operations of cooking difficult.

Perhaps the only risk attending this sort of provisions in its conveyance with a land expedition, would be in the friction which the canisters would, more or less, suffer, laden on bullocks, (so different from being stowed on board ship) when, if the smallest hole should be worn through the tin, the air being admitted into the canister would spoil its contents.

In India, our liquor bottles are protected by thin haybands, and I should think the canisters might be protected in a similar manner.

Exploring parties should be provided with stills, in the same manner Captain Baudin was, with which they might distil as much salt water (when in the vicinity of the salt river, if no other could be had) as would be required for the purposes of cooking and drink. An Australian salt water desert is better than an African desert without any sort of water, and there are always plenty of bushes for firewood.

CHAPTER IV.

ON PROVIDING CATTLE FOR THE PARTY.

It is intended to shew in this chapter, the number of cattle required for the expedition, and to give one table at length, in order to display the principle on which the succeeding calculations are founded, which may also prove useful, under a variety of circumstances, in Australia, not connected with expeditions of discovery.

When I first began this work, it was my intention to have included elephants and camels, but as the transporting of these animals to Australia would be attended at present with inconvenience, and the delay, perhaps, of one or two years, it seemed preferable to confine the plan to horses and bullocks, as they may be easily procured in the colony.

The Madras bullocks, as to strength, are in the proportion of ten to six of those of Bengal,

the latter being the strongest; but the annexed calculations are made in reference to the weakest, as being more likely to suit Australian cattle, employed perhaps for the first time in this kind of labour.

The following are the regulations in force under the coast presidency, and they may serve as a kind of guide for our Australian colonies. A coolee, or man's load, is eighteen quart bottles of liquor, or seventy-two pounds weight of any other article; and a day's journey for a coolee is twenty miles. A bullock load is three dozen quart bottles of liquor, or one hundred and forty-four pounds weight of any other article; and a day's journey for a bullock is twenty miles. A two-wheeled cart load drawn by two bullocks, is twelve dozen quart bottles of liquor, and one hundred and twenty-five pounds weight of any other article; or altogether seven hundred and twenty pounds weight of any article. The day's journey for the latter conveyance is fixed at fifteen miles, or extra pay if exceeding it.

The amazing improvement of our Indian territories, since they came under the dominion of the East India Company, and the consequent abundance and ease with which forage is procured, has enabled a reduction to be made in the allowance of gram to the public cattle. A bullock now receives only one seer of gram per day

when marching, and forage in the proportion of a bullock load, or three bundles (of hay, straw, or long grass) to ten bullocks; and the allowance is only half a seer per day when stationary.

Grain of any sort is the most compact food for burden cattle, but particularly Madras gram, denominated *cooltee*, for bullocks and horses; and I believe it might be easily reared in Australia. It is a kind of pea or vetch, a maund of which contains forty seers. Two maunds is a bullock load.

As there is no certainty of finding sufficient forage for the cattle of the expedition during its progress through the central parts of Australia, sufficient provisions must be carried with it for the whole calculated period of the journey, or fresh convoys must successively follow it from station to station, without which, the expedition would be undertaken under an almost certainty of failure; and with respect to fresh meat for the party, although kangaroos swarm in the neighbourhood of the north coast, yet this resource, if found in equal numbers in the interior, could only be acquired now and then,—a chance it would be dangerous to place any dependence upon.

The allowance of gram for each bullock with the expedition, is calculated at two seers per day, not as full food, but as equal to the preser-

vation of their lives, when they cannot procure dry or green forage enough for their full food.

Should the expedition at any time arrive in a rich, fertile part of the interior where the grass is six feet high, a reduction of the allowance of grain would necessarily produce a saving of that article, and contribute greatly to the health of the cattle.

The following table will exhibit the number of bullocks that would be necessary to carry thirty days' provisions for one hundred men; the multiplying or reducing these, will find the number necessary for any party of men, or the quantity of provisions for any space of time.

Spare cattle are not included in any of the following details, as the constant supply of fresh convoys of grain and provisions, and the daily consumption thereof, will produce spare cattle almost every day.

The table begins with the number of bullocks necessary for the carriage of the rice, wheat, or flour for the expedition for a given time: it then shews the number requisite to carry food for the above first loaded bullocks for the same time; and the numbers diminish progressively until the lowest is reduced to one bullock carrying the food of another and its own.

Although grain only is here intended, the calculation will apply equally well to the same weight of any other sort of provisions.

BULLOCKS.

MAUNDS.

38 each carrying two maunds, are required for the carriage of seventy-five maunds of rice for one hundred men.

Number of cattle requisite to carry gram for the above thirty-eight, at the rate of two seers each, per day, for thirty days, and their own allowance of gram for the same period.

	Food for 38 bullocks is	-	-	-	57
28	To carry that				
	Their food is	-	-	-	42
21	To carry that				
	Their food is	-	-	-	31
16	To carry that				
	Their food is	-	-	-	24
12	To carry that				
	Their food is	-	-	-	18
9	To carry that				
	Their food is	-	-	-	14
7	To carry that				
	Their food is	-	-	-	10
5	To carry that				
	Their food is	-	-	-	8
4	To carry that				
	Their food is	-	-	-	6
3	To carry that				
	Their food is	-	-	-	4
2	To carry that				
	Their food is	-	-	-	3
2	To carry that				
	Their food is	-	-	-	3
1	To carry that				
1	To carry the food of the two last	-	-	-	3

111

Fractions omitted, say

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One hundred and eleven bullocks will carry thirty days' food for themselves and the thirty-eight.

Number of cattle requisite to carry salt provisions for one hundred men, at the rate of one pound of beef or pork each man per day, for thirty days, or 3000 pounds.

BULLOCKS.	MAUNDS.
22 each to carry 140 pounds, exclusive of cask	
Their food is - - - -	- 33
72 To carry that and their own food for the same period - - - -	- 88
94	121

Number of cattle requisite to carry one hundred and fifty gallons of liquor, the weight of which is twenty-two maunds, suppose we say twelve bullocks.

BULLOCKS.	MAUNDS.
12	
Their food for thirty days - -	- 18
36 To carry that and their own food -	- 54
48	72

Number of cattle requisite to carry gram for officers' horses, twenty-five in number, at four seers each horse per day, and two seers each bullock per day, for thirty days.

BULLOCKS.	MAUNDS.
150 Their own and the horses' food -	- 300

Number of cattle requisite to carry nine officers' tents, and quantity of food at the same allowance for the same period.

BULLOCKS.	MAUNDS.
9 each to carry one tent, mallet and pegs	
23 to carry the food of the nine and their own	- 48
32	48

Number of cattle requisite to carry the officers' private baggage, each to carry a pair of camp stools, a sleeping car-

pet, and saddle bags of clothing for twenty-four officers and quantity of food for the usual period.

BULLOCKS.	MAUNDS.
25 one extra for the commanding officer	
Their food is - -	38
74 the necessary number to carry that and their	
own - -	119
99	151

Number of cattle requisite to carry three privates' tents, and quantity of food for the usual period.

BULLOCKS.	MAUNDS.
3 each one tent, mallet and pins	
Their food is - -	4
6 To carry that and their own food -	9
9	13

Number of cattle requisite to carry sundries, viz.—Four bullocks for the medicine chests and surgical instrument cases; four for the surveyors' apparatus trunks; four for the natural history specimen boxes; four for the carriage of bottles of lime juice, spruce, essence of malt, spicery, and salt; three for a stock of tea and sugar; and one extra, say twenty, and the quantity of food for the usual period.

BULLOCKS.	MAUNDS.
20	
56 to carry the food of the twenty and their own	117
76	117

Number of cattle (agreeable to regulation) for the carriage of stores and ammunition, and quantity of food at the usual allowance and period.

BULLOCKS.	MAUNDS.
6, their food is . .	9
16 to carry that and their own food .	25
22	34

Number of cattle for the *extra* stores, and quantity of food for the same period :

BULLOCKS.	MAUNDS.
6	
16 to carry the food of the six and their own	34
22	34

One bundle of musket-ball cartridges, containing ten cartridges, with the paper and string in which they are put up, should weigh one pound, twelve drams. Each bullock to carry twelve hundred rounds, which is above one hundred and twenty pounds, exclusive of barrels ; a sufficient burden for Australian cattle.

Number of cattle requisite to carry the boats, &c. viz.—Five horses for the ten basket boats, and one spare horse ; four Acheen or Pegu ponies for each canoe, with platform planks ; four ponies for the mast, in three pieces ; two ponies for the four stays and shrouds ; and their food at the aforementioned allowance for thirty days.

BULLOCKS.	MAUNDS.
Six horses and fourteen ponies, their food is	39
20 to carry that	
56 to carry the food of the twenty and their own	117
76	156

Totals of provisions and cattle for the expedition for thirty days :

BULLOCKS.	Gals.	lbs.	Rice.	Gram.
38 to carry rice or wheat			75	
111 to carry the food of the 38 and } their own				223
94 for the salt provisions	.	3000		121
48 for the liquor	.	150		72
32 for the officers' tents	.			48
323 ² Carried forward	150	3000	75	464

BULLOCKS.

MAUNDS.

			Gals.	lbs.	Rice.	Gram.
323	Brought forward		150	3000	75	464
99	for the private baggage					151
9	for the privates' tents					13
76	for the sundries					117
22	for the stores and ammunition					34
22	for the extra stores					34
150	25 officers' horses					300
76	6 14 ponies for the boats, &c.					156
777	31 14	Grand total	150	3000	75	1269

There will be seventy-six men to take care of the cattle on the march, or a little more than ten bullocks for each man.

It will be an immense advantage to the expedition, to have as many bullocks as the men can possibly attend to. The rule in India used to be one bullock-driver to three, four, or five bullocks, and commonly a Lascar to assist; but I have frequently known the bullock-driver to have the whole trouble of driving, which is a trifling fatigue when once the animals are got into the line of march, with thousands of others, loaded with baggage, and quietly following in the throng: I have even seen them occasionally come to the ground unattended, the driver having been casually detained in the rear. The foregoing number of bullocks will be little more than ten to each man, which I am sure a European is fully equal to, being about twice

as strong and active as a slight made native of India.

The following are a few of the advantages of having bullocks instead of horses for the expedition: the more bullocks, the more fresh meat will they have during the journey; the more fresh meat, the longer will their salt provisions last; and the longer the salt meat lasts, the farther will it enable them to push their researches, and the less apprehension will they be under for the arrival of fresh supplies. As food is carried for all the cattle, all anxiety on that score vanishes, and nothing but the want of water for so many mouths can ever excite a fear, which is certainly a startling thought; but as I should recommend the march to be commenced with the wet season, I would fain hope that the rains would attend them to a considerable distance into the country; and here let it be recollected that, as fast as the grain is consumed, so many spare bullocks are made, which may be killed and eaten as soon as convenient; thus diminishing considerably the number and trouble during the interval of waiting another convoy of supplies; at the same time that there would be fewer cattle to water whenever the commanding officer should think proper to return: but he would do well to always select the

worst cattle for the knife; and as none should be older than five years, the meat would be very good if they were allowed a day or two of rest previous to slaughtering. It would be a luxury to the dogs' meat I have eaten in India.

Should the expedition reach a river, or fresh-water lake, in the interior, the opportunity should be seized as a fortunate one for giving the cattle rest, and for making a halt on its banks. Pursuing a westerly or north-westerly course from thence towards the centre of the continent, should they arrive at any arid deserts where water is not procurable, they should retrace their steps to the last watered spot, encamp there, and send forward only small surveying parties, with a number of bullocks loaded with water, sufficient to serve the men and cattle a given time. Two or three parties might be detached in this manner to examine the country, for a few days' journey, in various directions, one of which might be fortunate enough to gain knowledge of a better watered route.

The bullocks should be trained with sacks of sand, every day for a fortnight previous to the journey, as well as made frequently to swim across a river and back again, to use them to the water. They ought, also,

to be shod with iron (a couple of shoes on each foot) before they commence the march, as is the custom in India; and the farrier should renew their shoes whenever they require it afterwards. They ought also all to have a thin rope or cord passed through a hole in the cartilage of their noses, and tied over their heads; without this, they are often wild and untractable, and sometimes quite unmanageable. When they are loaded, a rope attached to the load should be made fast to the nose-cord during the day's march, and then if any of them happen to take fright, or become restive and throw their loads, they cannot run away, but remain passively by the side of the burden, safely held by the nose; which is too tender a part to afford them the least chance of disengaging themselves and escaping.

The bullocks should all be picketted in lines, whenever there is sufficient space for it; a rope tied round the neck and fastened to a peg driven into the ground, is the usual tackling. Fresh pegs should be cut and carried at every opportunity, as it would be highly imprudent to let them wander all over the country after a long march, incurring additional fatigue, uncertain of being found and collected in time for the next day's march, and then found only with a great deal of

harass to the men, which might have been avoided. The saddle of each should be carefully laid on the ground, close in the rear of its respective bullock, when no trouble or confusion would ensue in saddling them. The high grass might be mowed all round the ground of encampment, and a bundle of it given to each bullock and horse: one bundle a day is enough with half the allowance of grain; but where there is no grass, they should have the other half allowance in the evening, which should be previously softened, by being steeped in cold water some time. Gram for horses is usually boiled, and then let to get cool, but the horses would most probably have oats instead of gram. The calculations are equally adapted to the weight of any sort of grain.

The bullocks should be taken in droves to be watered wherever the water may be, and back again, not suffering them to hunt for it by themselves, which would be often attended with a cruel loss of rest, and prove a fruitless search in an unknown country. A few might be fortunate enough to find a watering place, but the greater part of the drove would as probably wander wide of the mark; therefore nothing of this nature should be left to chance. The preservation of the bullocks being of vital importance, since they are the

carriers of all the salt provisions and stores, and are themselves the only fresh meat which the party could depend upon, any extra trouble on their account should not be withheld; it would be as well if the superintendant of the cattle walked down the lines every day, and examined their backs, to see that none were galled by an improper saddle, or careless loading, in which case a stuffed bag of straw should be placed on each side the backbone, under the saddle.

Every morning, on turning out to march, all the men, without distinction of trades, should assist each other in loading the cattle, one and all cheerfully, and a party of officers leading at a slow pace at first; they would be ready to follow in the train by tens, as they were loaded. On arriving at their ground they should be watered and fed, and each bullock should be rubbed down with a whisp of straw or grass, as is the custom with our Indian bullock-drivers; it is a great refreshment to the animals, and is done in three minutes.

I know not whether it is the custom in Australia to clothe horses every evening, that have to stand out all night, as we do in India, but I recommend it to be done, and think it indispensable for the preservation of their health, particularly after fatigue. As the nights are more sensibly cold in a warm climate in conse-

quence of the heavy dew, cloths should always be put upon them soon after sunset.

It may happen, during the dry season, in Australia as it does in India, that a country apparently quite burnt up and bare of vegetation, shewing few or no signs of grass, will be found to contain plenty of the roots of a kind of long horizontal twitch grass, stretching like wires a few inches under the surface of the ground. This, when dug up and washed clean, is both rich and wholesome food for horses, and what they are fond of, as it contains a deal of saccharine; indeed horses in India seldom get any other kind of green forage.

If any of the bullocks prove restive and lie down, the load should be taken off its back, and a thin rope should then be tied round its muzzle, sufficiently tight to prevent it from opening its mouth; the animal's nostrils must then be held closed and tight between the fingers, which will hinder it from breathing, when the violent effect of suffocation will cause it to jump up immediately, a consequence very often not attainable by twisting its tail, goading, or firing straw under its neck. It may then be re-loaded, and finding itself conquered, it will not be restive again. The above is a most effectual way of conquering a stubborn bullock.

A stock farm of five thousand breeding cattle should be established near the depot at Mount

Granard, from whence all the burden bullocks should be procured, and none but *calves* of five years old (as we call them in India) should be sent off with convoys of provisions for the expedition in the interior. From time to time two or three hundred should be caught, and a committee of officers should be held on them, as in India, to judge of their fitness for service.

Note.—It would not be amiss if the expedition, on reaching the first fresh-water river or lake in the interior, were to build a magazine, and lay in a plentiful store of salt provisions, which should not be touched on any account during the whole stay of the explorers in the interior, except when driven to open it by the last extremity of necessity. They would thus be always prepared against all accidents which might befall any of the convoys of provisions.

CHAPTER V.

ON THE FORMATION OF DEPOTS, &c.

A DEPOT being formed at or in the neighbourhood of Mount Granard, in the vicinity of wood, water, and forage, (or at any more convenient spot), all the cattle, supplies of grain and other provisions, stores, &c. should be accumulating there under the care of the military belonging to the expedition. When every thing is arrived, the officers might then quit Sydney and proceed to the depot, which would afford the cattle time to recover from the fatigue of their first essay at marching, and all would be fresh and ready for the more arduous enterprise of penetrating to the centre of the continent.

It would be but an act of prudence to enclose the depot with a slight breastwork and ditch, in the form of a triangle, each face being about three hundred yards in length; within the lines of this work no Indians should be allowed; this

would prevent the pilfering of the stores and perhaps hinder many quarrels with them, and the cattle might be brought in every evening and turned out to graze every morning, until the expedition took its final departure.

The movements of the expedition must in some measure be guided by the seasons, in a country where there is no certainty of always finding water, as well as by the extent of its supplies of provisions ; I should therefore advocate a very abundant supply of stores and provisions, so as not to cramp its movements, but to allow it all the latitude it is possible to give it ; that it may advance, retrograde, diverge to the right or left, or pursue a straight-forward course, completely through the interior to the western coast or appointed longitude, without any fear or apprehension of distress for subsistence, having only the single necessity, water, to search for. An occasional week or fortnight's halt, for the purpose of resting and recruiting the strength of the cattle, would not then be considered lost time, if the provisions were plentiful, and the system of convoys with more supplies was regularly persevered in.

Should it be possible for the expedition to have a monsoon, or wet season from first to last, throughout all its operations, which I think it might ; that is to say, its departure might take place at the commencement of the rains in the

transalpine country, and its arrival at its utmost westing might be calculated to occur at the commencement of the rains on the north-west or west coast, (this is, however, provided the march is directed immediately to that quarter), which would consequently afford supplies of water through the country in their march back to the eastward. But as a stranger to the monsoons of Australia cannot ascertain so exactly their periodical visitations on the different coasts at the same time, I must leave this part of the subject to be settled by the local authorities of that country. It is quite clear that it would be highly imprudent and dangerous, if not impossible, for the expedition to proceed through the unknown interior during the dry season; therefore, whatever may be the inconveniences and risks of marching in the wet season, yet that is the only time that an attempt to penetrate to the centre of the continent should be put in practice; and the route of the party afterwards can only be directed by circumstances and the character of the country, its resources in wood and water, and the eligibility of apparent tracks of the Indians.

The close of the dry season would then find the Expedition completely assembled and organized at the depot near Mount Granard, and it would commence its journey into the interior

with the first rains. Every individual would do well to wear their oil-skin mantles or cloaks whenever they were obliged to be out in the rain, especially the pedestrians, who would find them lighter to walk under, than a thick cloth great coat, which is an article fitter for a cold night, and might be thus kept dry to sleep in. The ground being soft and boggy, would fatigue the cattle a good deal till they were accustomed to marching; the day's journies, therefore, should be short at first, say ten or twelve miles; and their forage would be increasing by the growth of the grass in their progress.

Marching in a wet season through a country with or without roads, is certainly very far from being agreeable, but men accustomed to a monsoon march in India care very little for it, and I should think the difference between India and Australia in this respect very trifling: it may, perhaps, be somewhat colder in Australia; but when it is considered the immense quantity of forage and water the expedition would require with its full complement of horses and cattle, there seems no alternative but that of marching in the rainy season; and supposing it to have surveyed the interior right and left, by means of its detachments, during its progress westward, making very particular observations of the most likely places to find water in the dry season; by the time it had

reached the greatest distance westward, to which it was found practicable to forward their supplies from the several depots in their rear, some communication might be effected, either with the settlement at Port Raffles, or at George III. Sound, from whence it might be found more convenient to dispatch supplies on account of the distance being shorter. I will, therefore, suppose the expedition to have struggled through all the difficulties of the country to the vicinity of those two settlements, and it would have this advantage on its return, namely, having surveyed and being acquainted with the whole geography of the interior, they might choose the best watered countries to march through homewards; and the difficulties of the march would be so much diminished, that they might make longer stages if they could not find water at shorter intervals, and reach the depot near Mount Granard without having lost a single life by any severe privations of water and food; and the government at Sydney having taken care in the mean time to have sent fresh supplies to the depot to await their arrival, the whole party might halt there a short time to recruit their strength previous to their return to Sydney.

Another argument in favour of the expedition setting out at the beginning of the monsoon, is, that a few days rain would point out the

track they ought to follow, by laying under water such parts of the country as lie low, and are the most likely to be inundated. The same argument reversed, holds good for their return in the dry season, namely by having taken the bearings of the inundated spots as they proceeded, observing the course of the current and what appeared to be the deepest water by the absence of trees, reeds, or high grass; such places, although perfectly dry at the surface on their return, would almost to a certainty afford water by digging one or more pits.

Captain King says that the wet season began on the north-west coast about the 18th of October in the year 1819, and he expected it would have set in about the same period or perhaps early in November in 1820. The months of September and October terminate the dry season at Hunter's and Roe's rivers. In another part of the narrative, dated on the same coast, March 27, 1818, he says, "it was now about the termination of the rainy season, the grass was six feet high, and every thing bore a most luxuriant appearance." Again, March 28th; "as the easterly monsoon had commenced, our operations were hurried;" and on the north coast, he says, "the westerly monsoon, or rainy season, begins about the early part of December, and is at its height in January and February, but declines towards the latter end

of the latter month ; but as Captain Flinders, when upon the western side of Carpenter's gulf during the monsoon, had fine weather and thought it might be occasioned by the monsoon blowing over the land," it is very probable that the wet weather may occur in the interior of this part of Australia at a somewhat different period.

Provided the expedition should be plentifully supplied with provisions, and followed from depot to depot with fresh convoys ; it might calculate on reaching that part of the interior where the rains would be felt, in time to take advantage of the abundance of fresh water and forage ; when, having met with a desirable spot for resting on, they might make a long halt, during which, various exploring and surveying detachments might be pushed to a considerable distance in every direction, and a correct, though hasty, trigonometrical survey and rough map of those parts of the country effected.

It may be useful to mention the observation of another author, " that the rainy season at Bathurst, and probably throughout the whole of the transalpine country, is during summer, that is, from September to February."—(Wentworth's Australia, vol. i. page 208, third edition.) Now that period is the driest season of the year to the eastward of the blue mountains, where the rainy season happens between

March and August. But the seasons are so irregular in Australia, that until diaries of the weather shall have been kept on the other three coasts, no exact data whereby the movements of an expedition may be guided can be obtained. It was during a serene cloudless sky that Captain Oxley found the Lachlan overflowed, when there had been no rain in the western country; this, then, is the season in which the party should not move, as it might be endangered by a sudden inundation at one spot, and at another be in want of water through the absence of rain. That river is lowest during the rainy season, when the Indians venture into its bed in search of fish, and are not afraid to live in the dead level land.

It may be thought a strange thing to recommend a survey to be undertaken in the wet season; there are some inconveniences attending it, but it also has some advantages. It is well known that a considerable vapour ascends in tropical countries and warm climates during the dry season, which causes a haze and indistinctness of view of, if it does not totally obscure, distant objects. Captain King confirms the truth of this remark in an observation he makes on the clearness of the weather after a fall of heavy rain or after a thunder-storm, and says he discovered land at a great distance thereby, which was before indistinct or ob-

scured, and was enabled to fix the distances of points. Intervals of dry weather are frequent, and should be seized for taking the bearings of station flags and other points, which, as I before said, would be visible after a shower at a greater distance, and seen more distinctly, and with greater accuracy, than during the dry season.

Drawing materials would perhaps be a little deteriorated by the damp, yet not enough to hinder the rough plans and sketches from being taken and coloured sufficiently for the purposes of the survey, which must in all cases be copied after the return of the expedition. The tents should be steeped in a solution of alum or in alum water, which, although it tans or rather dyes the cloth red, prevents it from rotting with mildew.

The local government should purchase annually the best cattle in the colony, and send them to the stock farm near Mount Granard, (or any other distant spot that might be fixed upon as being more convenient for the expedition), for the purpose of breeding and ensuring a constant supply, which otherwise could not be depended upon if entirely trusted to contractors. Flocks of sheep and goats also should be purchased and forwarded to the stock farm, and whenever the time arrived that the expedition discovered a fertile country, they might

accompany some of the convoys. We are as yet unacquainted with any reason why a small body of men should not move about with their flocks and herds in the centre of Australia as well as in Arabia.

As the expedition is considered to be permanently divided into three divisions, whenever the want of water or forage occurs, each division should proceed separately, following each other, and rejoin at the first plentiful supply of water. If the first or leading division should ever be threatened with an attack from a tribe of Indians evidently too strong for it, or by which it might expect to have its provisions cut off, or be in danger of being overpowered by numbers and a ferocious perseverance in hostility; it should fall back upon the second division and resume the survey in union with it, or the other two divisions should march up to its support.

As circumstances would frequently occur to render it necessary for the expedition to prolong or shorten the distance of a day's march, for the convenience of water, or from the state of the country, the commanding officer should endeavour as far as possible not to exceed fifteen miles as the distance of each day's march, (unless in case of an uncontrollable emergency), and that every fourth day be a halt, provided the nature of the ground and

vicinity of water should make it eligible for encamping upon. The average rate of progress according to the above stages, would be forty-five miles every four days, one of which would be a halting day. This is as much as should be extorted from loaded cattle travelling in a country without roads, and would allow the surveying officers ample time to ride out every day and sketch the surrounding country, take the bearings of distant objects, and make their road-book maps.

A comparison will, perhaps, be here drawn between the slow progress of this expedition and the rapid and long marches of Captain Oxley and later travellers; but it should be recollected that the plan, intention, and anticipated results, are so different as scarcely to bear any analogy. Travellers and parties, according to the present prevailing system, set out with horses with just so much provisions as they calculate will allow for a certain tour, and if they fatigue their horses to death it is a secondary consideration, knowing that they can return home whenever they please; but here is an expedition ordered to penetrate through the continent and traverse it in every direction, which may occupy some years, and the officers composing it could not return home without being guilty of a disobedience of orders, unless they had previously obtained leave of absence,

or permission to quit it entirely. The commanding officer, therefore, becomes responsible for conducting it with the least possible harass, both to those under his command and the cattle; neither could he sacrifice the life of a horse under the idea that he should soon be at the end of his journey or return home; and even if circumstances forced him now and then, to make as long a march as is customary by small parties, it would be his duty to make it up to the cattle by halting two days together instead of one. In short, the success of the expedition would depend on his sailing slow and sure.

It would be impossible to conduct such an expedition with horses alone; they are expensive, and at the same time dainty feeders, requiring double the allowance of bullocks; and besides, how are the men to get fresh meat for several months, perhaps years, if horses only were employed.

In open plains, or barren and rocky tracts of land, ravines, or narrow defiles, the bullocks would travel quietly along, without giving their drivers any trouble; but in the event of having to pass through a thick wood or *brush*, (I think the Indian term "jungle," would be preferable), it might be necessary to employ a few men as pioneers to open a path in front of every day's stage, as far as the wood ex-

tended; and the expedition should halt near some supply of water during its execution, otherwise the cattle might wander away from the line of route, and be easily lost: but the more surely to prevent them from separating in a wood or jungle, after the path is made, a rope should be passed from the head of one to that of another, and a third and fourth, so that three or four would be tackled together, and obliged to follow each other. But it rarely occurs that woods in Australia are so thick as to embarrass the progress of cattle, even with burdens; and what is called forest land is very open. Lakes, ponds, and marshy or swampy places, would be the occasion of frequent circuitous marches, and I should strongly advise the officer of the leading division never to cross over a mountain, if it can be avoided by travelling round its base, or a passage through a range can be found.

Hills are valuable in a survey, from their presenting prominent and marked features of a country, by which the place or situation of any particular point may always be recognised by future travellers; they afford easily known stations in laying down the map, as well as the command of an extensive horizon, and a bird's-eye view of the country. When directions are sent back to the depot near Mount Granard, by the commanding officer, reporting the point

or station he has fixed on to receive the supplies of provisions, a sketch of his route should accompany his report, and every advantage should be taken of any hill, or rising ground, or other remarkable object, to point it out as a landmark; and the officer and escort bearing the report, should return to the station in company with the supplies, which, when arrived, its guard (belonging to the detachment at the depot) might be dismissed, and sent back to Mount Granard to escort further supplies to the same place.

According to the progress of the expedition, and its increasing distance from Mount Granard, there would be new stations fixed upon for the reception of supplies. These stations should be occupied by small guards, say, a corporal and six privates, as long as the expedition remained out on service, occasionally shifting the guards to stations on other routes; which, together with the escorts for every convoy of provisions, would require a number of men for the reliefs; it would, therefore, be advisable to make the grand depot at Mount Granard a military post for a captain's detachment.

In illustration of a chain of depots or stations, of which a diagram is exhibited on the accompanying map, I will suppose the commanding officer moves with the whole expe-

dition from the grand depot A, upon depot B, but in his way halts at station *a*, and while he, with one division, (which we will call the head-quarters), halts and sketches the surrounding country, he detaches the second division to station 2, and the third division to station 3, at which posts the officers of those divisions would sketch the portions of country falling within their power respectively; and being only victualled for a certain number of days, to admit of their reaching a certain distance and to return, would hasten back to head-quarters, when those services were performed.

The commanding officer would then move on to station *b*, and there detach two divisions, one to station 2, the other to station 3. The three divisions having completed their surveys; from station *b* the commanding officer would move to depot B, where he would make a longer halt for the purpose of receiving a convoy of provisions from depot A. In the interim the divisions would be sent out on survey to stations 1 and 2 southward; the head-quarters during this interval being employed in surveying the country surrounding depot B, which it might extend to station 3, westward, and around it.

On the arrival of the convoy of bullocks, the commanding officer would move on to station *c*, and from thence detach divisions to

stations 2 and 3, right and left. The commanding officer would proceed in the same manner to station *d*, and having taken surveys of the country right and left, would move on to depot C, where he would make a longer halt for the second time, to enable a convoy of bullocks with supplies to arrive there, which would be accomplished with so much the more ease as a map of the country is supposed to have been forwarded from depot B to depot A, by a small party, which would return to the expedition with the convoy, and be met at some fixed point in the survey by a party from depot C, to conduct them by the best route.

The same method of proceeding would be pursued at stations *e* and *f*, and at depots D and E; and so on throughout the continent.

The distance from depot to depot in the diagram being 300 miles, and that of the stations to which the separate divisions are detached are supposed to be 100 miles, or eight or nine day's march. But the distances of course would be arbitrary if the survey was actually going on, as they must depend entirely on the eligibility of the ground for encamping upon, and the convenience of being within reach of water.

Still smaller parties might be detached to the distance of one day's march by each division, when out at their posts.

The reader will perceive that even a survey thus roughly and stragglingly carried on, would not leave much of the country unexplored ; and it would satisfy the curiosity of the public, might possibly be the means of some important discoveries, and, finally, would complete our geographical knowledge of that vast, unknown portion of the globe.

CHAPTER VI.

ON TREATMENT OF HOSTILE INDIANS.

THE interior of Australia is, as it were, a sealed book, of which we have only accomplished the first chapter, by having penetrated to the hitherto only known termination of the Macquarie and Lachlan rivers. To pursue that research to any great distance into the interior, or to traverse the whole continent, is an enterprise too gigantic to be undertaken by any private individuals; witness the fruitless journeys of so many travellers of late years, all of whom have been forced to return back for want of more provisions, independently of the risks of meeting with tribes of Indians as ferocious as those on the North Coast. The only chance of interior discovery being attended with success, would be in the united exertions of a body of scientific men; sufficiently provided with defence, as well as articles of subsistence, appointed and paid by government.

The Indian tribes of Australia cannot be bribed into peace by carrying presents to their chiefs, as is the custom in the interior of Africa ; they despise our European articles ; and such is their independent spirit, that scarcely will one family acknowledge the superiority or authority of another ; and although the friendship of a whole tribe, with the exception of one individual, should be attained, yet such is their ignorance and the irascibility of their temper, that that one would let fly his spear at the first white man he might meet, to revenge any supposed affront. This is a truth that has often been experienced ; and with this before our eyes, it would be the height of imprudence for an exploring or surveying party to march into the interior carelessly provided with defensive weapons or defensive clothing.

Neither can the geography of Australia be attained by commercial enterprize, as is about to be the case with Africa ; for, with the exception of a few useful articles, a hatchet or a knife, the Aborigines of Australia constantly throw every thing away that is given to them. It is much to be regretted, that the custom of purchasing their spears was ever begun, as it has become not only an encouragement to them to make more, but it must act like a premium or reward for their expertness in the speedy manufacture of these dangerous wea-

pons; and where one man formerly made a single spear, now ten men will make a hundred, to be repented of hereafter. Let us hope, that as this arm has been prohibited in the towns, that a few more years will see it exchanged for the hoe and mattock in the provinces, and that this first step to universal peace at home may make the tour through all the stranger tribes at a distance. There is nothing so great or so difficult that may not be attained by the wisdom and power of British authority.

Here it will be useful to take a cursory view of the hostility of such tribes as is on record, that the expedition may be more particularly prepared against them and their contiguous tribes, who no doubt partake of their inveterate enmity to the whites; this work has nothing to do with the peaceful or friendly tribes.

In J. H. Tuckey's narrative of a voyage to Port Philip, in Bass's Strait, in the ship *Calcutta*, is the following occurrence. The ship arrived in Port Philip in October, 1803. Two boats' crews having landed on a plain to the northward, upwards of two hundred Indians assembled round the boats, when their obviously hostile intentions made the application of fire-arms absolutely necessary to repel them, by which one Indian was killed and two or three wounded. Previous to this time,

they had had several friendly interviews with them, and had presented them with blankets and beads. They appeared to have a perfect knowledge of the use of fire-arms, but as they seemed terrified at the sight of them, they were kept out of view. The last interview which terminated so unexpectedly hostile, had at its commencement the same friendly appearance ; three Indians unarmed, came to the boats, and received fish, bread, and blankets. Feeling no apprehension from three naked unarmed savages, the first lieutenant proceeded with one boat to continue the survey, while the other boat's crew remained on shore to dress dinner ; the moment the first boat disappeared, the three Indians took leave, and in less than an hour returned with forty more. This party immediately divided, some taking off the attention of the people who had charge of the tent in which was Mr. Harris, the surveyor of the colony, while the rest surrounded the boat, the oars, masts, and sails of which were used in erecting the tent. Their intention to plunder was visible, and all the exertions of the crew were insufficient to prevent them. In this situation it was thought advisable to temporise, and wait the return of the other boat, and for this purpose bread, meat, and blankets were given them. These condescensions, however, seemed only to increase their boldness, and

their numbers having been augmented by the junction of two other parties, amounted to more than two hundred. At this critical time the other boat came in sight, and observing the tumult at the tent, pushed towards it. Upon approaching the shore, the unusual warlike appearance of the Indians was immediately observed, and as they seemed to have entire possession of the tent, serious apprehensions were entertained for Mr. Harris and two of the crew, who were absent. At the moment that the grapnel was hove out of the Lieutenant's boat, one of the Indians seized the master's mate, who had charge of the other boat, and held him fast in his arms; a general cry of "Fire, Sir, for God's sake, fire," was now addressed from those on shore to the first Lieutenant. Hoping the report only would be sufficient to intimidate them, two muskets were fired over their heads. For a moment they seemed to pause, and a few retreated behind the trees, but immediately returned clapping their hands, and shouting vehemently. Four muskets with buckshot, and the fowling-pieces of the gentlemen with small shot, were now fired among them, and many were supposed to be struck. This discharge created a general panic, and leaving their cloaks behind them they ran in every direction among the trees. It was hoped the business would have termi-

nated here, and orders were therefore given to strike the tent, and quit the territory of such disagreeable neighbours. While thus employed a large party again assembled, and advanced in a compact body, every one armed with a spear, and some attendants carrying bundles of them; when within a hundred yards they halted, and the chief, with one attendant, came down to the tent, and spoke with great vehemence, holding his spear in a position for throwing. The first Lieutenant wishing to restore peace of possible, laid down his gun, and advancing to the angry chief, presented him with the cloaks which they had left behind in their retreat. The chief received them, and when all were given up, the body of Indians began to descend the hill, shouting and flourishing their spears. The boats' crews were immediately drawn up, with their muskets loaded with ball, and the chief was made to understand, that if his people continued to approach they would be immediately fired upon; but these threats either being not understood or despised,—the latter seemed the most probable,—it was deemed absolutely necessary for their safety to prove the power of their firearms before the Indians came near enough to injure them with their spears; selecting one of the foremost, who appeared to be the most violent, as a proper example, three muskets were fired at

him at fifty yards distance, two of which took effect, and he fell dead on the spot. The chief turning round at the report saw him fall, and immediately fled among the trees; a general dispersion succeeded, and the dead body was left behind. It is almost unnecessary to add, that the party quitted the place and sailed for the Derwent.

The above occurrence shews the deep cunning and military stratagem of these Indians in no mean light; they certainly displayed a degree of courage and perseverance which will not be slighted at some future period, when they shall have become accustomed to firearms; but they are, fortunately for us, afraid of our weapons. Their plan of dividing and amusing their enemy, while they are surrounding him or his baggage, and their determined obstinacy to possess themselves of it, shews the absolute necessity of a surveying party being strong in numbers, well defended, and constantly on the watch to prevent a surprise and from being overpowered.

The same warlike spirit and system of stratagem, and the same deep cunning and irascibility of temper, was evinced by several tribes that Captain King encountered on other parts of the coast; and the traveller must be prepared to expect rough usage from the Indians of the country contiguous to them in the

interior. The following short extracts from P. P. King's narrative will point out those places.

Near Cape Baskerville, on the north-west coast, Tasman, the ancient Dutch navigator, landed with twenty-five men. He found the Indians numerous and cruel. About fifty of them, divided into two parties, endeavoured to surprise the Dutch, but they were scared away by the firing of guns.

Hanover Bay, near Prince Regent's River, was the scene of a most treacherous attack by the Indians on Captain King's party, when the surgeon was dangerously wounded by a spear. These Indians were more robust looking men than any that had been before seen; the tallest was at least six feet two inches high, and his companion had a ferocious appearance.

At Encounter Cove, in Vansittart Bay, Captain King's party narrowly escaped being intercepted by the Indians. Having ascended a hill for the purpose of taking bearings, they observed them attentively engaged in consultation, and in watching their movements; after some deliberation the Indians moved quickly forward towards the foot of the hill, evidently with an intention of intercepting their return to the boat, which, had they persevered in, they could easily have accomplished; but changing their mind, they again slowly retired to their

former station. On rowing to another part of the shore, the Indians were again lying in ambush behind the trees, from whence they rushed with loud shouts, running to the water's edge, and from thence they threw several stones; then prepared their spears, when it was found necessary to deter them by firing a musket over their heads, which had the desired effect.

On another occasion, in the middle of a mangrove creek, in Port Essington, while the boat's crew was busily employed in clearing the rudder, they were suddenly assaulted by a party of Indians, uttering a loud shout, and leaping into the water with their spears and clubs; but the moment they made their appearance some shot were fired over their heads, which had the desired effect, for they gave up their premeditated attack, and retreated behind the bushes, where they remained vociferating loudly in angry, threatening voices. After this, as the boat was proceeding down the rivulet, they were observed to hasten to a low part which it was obliged to pass, but the crew being aware of their intention, prepared for the event; and, as was expected, they were assailed by a shower of spears and stones, which they continued to throw until the boat was out of their reach.

The Indians at Bathurst Island, but more particularly at Goulburn's Islands, made several

attacks on Captain King's people; and the Captain remarks, that his people were well aware how suddenly they have always appeared when it was thought that none were in the neighbourhood.

The most persevering attack, and plan to cut off the retreat of Captain King and his companions, by the Indians, was made near Cape Flinders, on the east coast. Here were ten of them to four white men, one of whom was wounded by a spear; but when they found themselves baffled by Captain King's firm and judicious method of amusing them, they sought to gain their ends by offering them the company of a young woman, who, herself also, endeavoured to strengthen the offer by appropriate gestures on her part: the Captain says they declined an honour so pressingly but so suspiciously offered. When this manœuvre failed, the Indians once more made an attempt to cut off their retreat, by some of them, armed, making a circuit to get in their front, in which they were most fortunately disappointed, by the arrival of the boat with muskets and more men.

I would here ask what would they have done to the man who might have gone aside with the young woman? The endeavours of the Indians have every where, and on almost all occasions, been to seize their prisoners alive;

and just as if they were hunting or surprising so many kangaroos, whenever they cannot accomplish that, they resort to the spear to prevent the escape of their victim, but not to kill him; for here is one, of many instances, in which they had the white men completely in their power, and could have put every one of them to death, as Captain King remarks in another part of his narrative, but this was not their object; although the fact of spearing their human game is a very sufficient proof that their lives are never intended to be saved. The conclusion is but too evident; these wretches find a precarious and half-famished livelihood from shell-fish and game; and human flesh, whenever attainable, is their time of feasting. It is, perhaps, a kind of game more delicate to their palates than their disgusting dish of half-cooked turtle intestines.

Cannibalism prevails extensively in some of the islands to the northward and eastward of Australia; and it is on record, that the Rajah of one of the former keeps a man in a cage fattening for the knife. (*Vide Asiatic Journal*.) It is not, therefore, an extravagant idea to suppose that such a custom, *i. e.* feasting on human flesh, extends to Australia; in fact, I have recently read of an officer's servant, in one of the new settlements in New South Wales, having been killed by one of a neighbouring tribe for

the purpose of being eaten! Could the young woman just mentioned have decoyed one of the party away from his three companions, the latter would, in all probability, have been instantly overpowered, butchered, and left upon the ground; but the victim of love would have been bound hand and foot, conveyed to a favourite retreat, and there, before a blazing tree, have been sacrificed to the keen appetites of his black sportsmen.

A perpetual warfare exists between the Malays, who visit the north and north-west coasts of Australia, and the Maregas, or savages of those coasts, who, we are informed, are generally an athletic, muscular race, displaying a considerable share of courage and more cunning when firearms are out of view: and as they cannot discriminate between Europeans and Malays, it would be difficult, if not impossible, to establish a friendly intercourse, or travel with any security in the interior, near the confines of their country. An expedition would be liable to frequent attacks, but the use of coats of mail, vigilance of the party, and prudence of the commanding officer, might render all their attacks abortive and bootyless to themselves, without the unfortunate necessity of destroying life, or of convincing them of the destructiveness of our arms, in any other way than by that of shooting some of the numerous

kangaroos of those parts. May it never be said of Britons, that they pursued with fire and sword the miserable, half-starving, ignorant, aboriginal tribes of Australia. Whatever may be their disposition for hostility or plundering, and however little they may deserve to be treated with lenity or respect on account of their provoking treachery, the chastisement of death is neither just nor becoming in an enlightened people. The best chastisement would be, to waylay and seize some of them, particularly the principal offenders if they could be caught, keep them in custody a few hours, during which they should be well fed, caressed, and made friends of, and then liberated; when the report of the kind treatment they met with in confinement, would allay the spirit of hostility and the irritated feelings of their tribe, and perhaps bring about a friendly intercourse. Captain King succeeded in this plan on one or two occasions.

It appears from the united testimony of Tasman, Grant, and P. P. King, that whenever a tribe of Indians are observed to divide into two or more parties, that it is a certain indication of speedy, open hostility, or of what is more to be feared, treachery. Again,—when they appear merry, full of antics, and very officious and apparently friendly, they are more to be feared, and ought to be more strictly

watched, than when they are in declared warfare with us. In the latter case we are always armed and on the qui-vive, but in the former we are lulled into a fatal security, and being under no apprehensions of evil, have laid aside our weapons, and in the next moment may be speared or clubbed.

The most deceitful part of their practice, is to spear people in the back, a circumstance which every one must allow to be impossible to guard against in any other way than by wearing coats of mail. During the halt or encampment of the expedition, one sentry, or at most two, would be sufficient to watch the motions of the surrounding Indians. Sentries should never be allowed to mount guard without their mail, and they should be relieved every hour instead of every two hours, which would render the harassing duty of watching the restless savages less fatiguing, and enable them to be more on the alert. When encamped in woody or rocky situations, a few more sentries should be posted at spear-distance from the camp, and pace the ground to within sight of each other, forming a chain of watchmen; otherwise the neglect of this precaution might expose the party to the unexpected assault of a flight of spears from behind the trees or rocks; when it was supposed that no Indians were in the neighbourhood.

In a former American war, our sentries were always cut off in a most mysterious manner, and it was in vain to order them to discharge their muskets on the approach of danger: it was subsequently discovered that the Indians disguised themselves in skins, and in the darkness of the night one would be moving about upon all fours pretending to be feeding and rooting about in the high grass, imitating the contented grunt of a pig; till after a variety of turns in the vicinity of the sentry, during which the Indian gradually approached nearer, and watching his opportunity, suddenly rose upon the panic struck soldier and stabbed him with a long knife: in consequence of this discovery, sentries were afterwards posted double. The Indians of Australia have not yet displayed a similar instance of stratagem, yet there may be situations where it would be prudent to post double sentries to watch them.

A small guard should be mounted every day in camp over the provisions and stores, arms, &c. and it should be the assigned rendezvous for every individual of the expedition or division, to assemble at, on occasions of alarm from an expected attack.

No officer or men of science should ever quit the camp or the expedition when in route, without defensive weapons and a few soldiers to attend them; it would be the duty of the

latter to keep near those whom it is as much their interest as duty to protect, and they ought to keep a strict watch around them wherever the objects of the survey might lead them, and by their vigilance and activity prevent a surprise, or defeat any enterprise or attack from the Indians.

Lieutenant Grant, who made an excursion of eight miles inland, at Jervis Bay, in 1802, says, "he fell in with a very pleasant spot of ground, which, from the remains of numerous fires and various fish bones, he conjectured to be a place of festivity. He also found some human bones which he collected and took on board ship with him; they proved to have belonged to a poor white man, who had sometime before been wrecked in a boat off the shore and eaten by the aborigines." The latter propensity, he says, is so strongly corroborated by various facts, that there can be no doubt of their being cannibals. It is the inland or bush tribes who are eaters of human flesh. They dispatch their victims by striking them in the pole of the neck with a club, after which, they cut them open from the throat down the breast to the lower part of the abdomen.

Lieutenant Johnstone, in 1821, landed at Bateman Bay, and met a tribe of Indians, from whom, through the medium of his interpreters, he learnt the particulars of the loss of Mr.

Stewart and his boat's crew ; as also of a man of the name of Briggs and his companions, who made their escape from Sydney in a whale boat. Stewart and his crew, they said, lost their boat at Twofold Bay, and were all cut off by the tribe at that place. Briggs and his companions being upset at a distance from the shore at Bateman Bay were unable to reach the land. But as Lieutenant Johnstone saw knives, tomahawks, &c. among this tribe, he was of opinion that the runaways had suffered the same fate as the unfortunate Stewart, and that this very tribe were probably the murderers.

The Australian newspaper of March, 1827, says, " Two tribes of Indians who had been at war with each other, came to Wellington valley and furnished tidings of a large inland lake, situated about two hundred and fifty miles due west of the valley. This water, it is supposed, has some communication with the river Macquarie."

The above paragraph proves two things ; first, that the Indians in those parts are fully capable of annoying an exploring party provided they were inclined to do so, and that although Mr. Jamieson or any other traveller with a few attendants, might pass through the country unmolested, or not meet with them ; yet a party carrying on a survey, surrounded with numerous articles of excitement and

temptation to plunder, such as Blacky could not withstand, would inevitably experience a good deal of tiresome behaviour, if not open hostility, from them, unless the surveying party should prove to be the most numerous of the two. And secondly; that the above lake can only communicate with the Macquarie river (if it has any communication at all) by means of a river; thereby forming a chain of lakes, in the same manner as the well known and peculiar feature of Australia which so often presents itself to the traveller in the shape of a chain of ponds. For, if the Lachlan Lake formed with the Macquarie Lake, one single expanse of water, it must not only be salt, but it would be larger than the Caspian Sea, which is only 700 miles long, and from 150 to 220 broad, and is as salt as the ocean. (The question of the Macquarie Lake is set at rest by Captain Sturt's discoveries, but not so with that of the Lachlan Lake.)

Whenever a number of treacherous Indians continue to follow an exploring party, every now and then throwing a spear, it would be a good plan for one of the best marksmen to single out the most troublesome and violent, and wound one or two of them in the right arm, which would not only put them hors-de-combat, but force the others to occupy their time in supplying food for the support of their

disabled comrades, instead of following and hovering about the expedition for the purpose of cutting off or annoying any of its members. The Indians are said to perform the most incredible cures on wounded men; therefore, the disabling some of their most active warriors rather than killing them is the best of two evils. The expedition would have nothing to fear from them during the darkness of night, for although they are skilful in action, and not deficient in courage by day, they are said to be extremely apprehensive to stir abroad by night, unless pressed by hunger, in pursuit of love, or instigated by jealousy or revenge.*

NOTE.—The indulgent reader will observe, that the succeeding chapter principally relates to the Macquarie inundation (written long before the discovery of the river Wellington) and might as well have been left out of the work; but the author has been encouraged to let it go to the press without alteration.

* The horrible propensity to anthropophagism has ceased to be indulged in at Jervis Bay, Bateman Bay, and other places in eastern Australia since we have fixed small settlements at these places. This speaks volumes in favour of colonizing every improvable inlet around the whole of the Australian coasts.

•• As there are now so many white natives in Australia, the term *native*, as applied to the aborigines should be discontinued. The term *Indians*, as used in North America, seems most suitable, because, to call people *Blacks* who are not black, is improper, many being fair, and all being brown. To call them savages is a libel on the quiet tribes.

CHAPTER VII.

ON RIVERS AND INUNDATIONS.

THERE is a mystery hanging about the geography of Australia, which I venture to say has never had a parallel in any other country, and which is enough to excite the most extravagant curiosity in those whose studies have led them to a contemplation of the varied surface of our beautiful planet.

Various opinions have been formed by several late authors who have written upon Australian geography, respecting interior sandy deserts, interior seas, and the termination of the rivers Macquarie and Lachlan; and although it is decided that there is a large lake to the westward of Wellington Valley, yet I think there is sufficient proof and grounds for believing with Mr. W. C. Wentworth, that the Macquarie at least, does not terminate in a Mediterranean sea, but will be found like the Niger, to find its way to the ocean.

"The Neel El Kabeer, (Niger)," says Mr. Jackson, "is fullest in the month of August, when it overflows in some places where the banks are low, but the depth of the inundation is seldom more than eighteen inches ; the banks are covered with reeds, with which the natives make mats. Camels, horses, sheep, and goats, feed upon the banks, but during the inundation are removed to the uplands ; the wells have the best water after the swelling of the river ; the flood continues about ten days. The abundance of rice depends on the quantity of land flooded. The breadth of the river is various, being in some places narrower than the Thames at London-bridge, in others wider."—*Vide* Jackson's Timbuctoo.

The Niger was once thought either to discharge itself into an interior sea, like the Caspian ; or, like the Burampooter, after various and extensive windings, to return towards the direction of its source, and fall into the Atlaptic. The latter opinion, from the latest intelligence, seems to acquire some chance of confirmation. Now, although we know for a certainty that the Macquarie does not fall into the sea to the eastward, yet it may be considered equally certain, that the extraordinary quick and sudden disappearance of an inundation of such a magnitude as was witnessed by Captain Oxley, could not be the effect of absorption or evaporation, but

must have been caused by the draining of it off the country by a vast channel, which is neither more nor less than a river of the first class, naturally bending its course in the direction of the general inclination of the surface of that part of the continent, which is allowed to be from the Blue Mountains to the north-west and west coast, the same as South America does from the Andes to the Atlantic; any secondary ranges of hills or inequalities of surface in the interval, although a distance of fifteen hundred miles, would no more affect the course of such a river, than they do the Amazons' river in South America. So vast a body of water would, in the course of ages, force its way past all such obstacles.

The banks of the Lachlan are lowest on its north side, which is enough to indicate the direction of its course; and notwithstanding the lakes it may form, there is sufficient presumptive proof that the Macquarie and that river attain each other in some extensive level, and will be found to unite their waters into one grand stream somewhere in the centre of the continent; probably also with the addition of the waters of the Castlereagh, and several other rivers from the north-east, and conjointly contribute to the peculiar feature and circumstances of the tides and currents near Buccanneer's Archipelago, in which neighbourhood I enter-

tain the fullest conviction that its *embouchure* will be found.

De la Condamine established the fact of the junction of the river Amazons' with the Orinoco, through the medium of a tributary stream belonging to each, joining each other in a low country; and J. G. Jackson, Esq., sixteen years resident in Africa, proved, from the most satisfactory testimony, the connection of the two Neels of Africa, by nearly the same kind of natural means.

Having given my whole attention to the study of this subject a long time, I feel the strongest conviction, a kind of second sight or presentiment, that a river of the first magnitude will be found in Australia. It is impossible to contemplate the works of a Bounteous Creator, and believe that any imperfection can exist on the face of our planet, which would certainly be the case if such a continent had no outlet for its waters; or at least it would be a great physical defect. I have accustomed myself also, to compare the rivers Lachlan and Macquarie to those of other continents possessing the same feature in inundations, but could never get over the very extraordinarily quick disappearance or subsidence of the Australian inundation in any other way than by coming to the most natural conclusion of its having a vast channel at the back which led off the water :

and as to thinking that such a sea of water could be evaporated or absorbed in two days, it is too preposterous an absurdity to be entertained a single moment. This single fact must bear down every diversity of opinion to the contrary, letting alone the other two facts, of the water of the supposed Macquarie Lake being fresh, and of Captain Oxley not being able to see any thing like a sea in that direction from the top of Mount Exmouth.

I feel as assured of the existence of a great river through that continent as if it had already been navigated. We, Friends of Australia, have long desired a blessing. "Give me a blessing, for thou hast given me a South Land; give me also springs of water," is a Scripture aptly applicable to our case. Should a beautiful and navigable river of the first magnitude be discovered debouching into the Indian Ocean, surely a more appropriate name could not be thought of than to christen it "The Desired Blessing," that a gift so long and so earnestly desired at the hands of a bounteous Providence, might, throughout succeeding ages, perpetuate the impression of gratitude along with it; instead of naming it from a human being, who in after times has as little to do with it as the individual now paid for exploring: for such a gift as this some lasting token of gratitude would

be due from a petitioning people to a Higher Power than man.

Immediately on the discovery of such a river, a settlement should be formed at its *embouchure*, and one or two more on its banks in the interior; for this purpose an expedition should sail from England, consisting entirely of free settlers, and more efficiently and abundantly supplied with tools, stores, and provisions, than any that could be furnished from Sydney; at the same time, a couple of paddle vessels, of 200 tons burden each, drawing about two feet water, should be sent to explore the river, one of the vessels being entirely loaded with coals, to act as tender to the other for the supply of that article.

Mr. Allan Cunningham has observed, that the Lachlan falls in a dip of inland country to the N.N.W. of the granite hills, near Lake George, from which hills it rises 1400 feet in 120 miles, which is nearly twelve feet per mile; but Captain Oxley, on the other hand, says, the north side of the Lachlan, "all along, appeared to be the lower ground," if so, as Mr. Wentworth justly observes, it was of course the side from which all branches of the river would naturally shoot off, and that *the large arm* seen on the *north side* by Captain Oxley, is the principal branch, or rather the *main*

stream, running to the N.N.W., the general inclination of the hills of the continent. The above conflicting accounts of the Lachlan may be easily reconciled by only supposing that river to have a very circuitous course.

“ The Lachlan probably serves as an outlet for other waters than those derived from its own sources: all the streams which rise along the range of mountains southward of Port Jackson, and flowing westward from an extent of four degrees of latitude, some perhaps as big as the Lachlan itself. Streams must also flow both eastward and westward from the range of mountains at Spencer’s Gulf, which are said to be as high as the Blue Mountains.” These probably all join the Lake or the Lachlan, and running in the general inclination of the country, forming, perhaps, several lakes and morasses in their course, at last attain a great river (for which I have proposed the name of “ Desired Blessing”) in the dead level, a country similar to the extensive flat in the south of Bengal, through which the Ganges flows.

It appears also that the country in every direction, at the head of Spencer’s Gulf, is as fertile as nature can make it. “ From the top of Mount Brown (3000 feet high) the eye traverses over a flat, thickly wooded country in every direction,” rendered thus productive, of course, by the streams which must flow from Brown’s range of mountains, notwithstanding Flinders was

unable to see either rivers or lakes ; but “ it is impossible that a range of mountains, of such elevation as this, could exist, and not be the source of streams flowing from it in contrary directions.”

Captain Oxley observes of the Macquarie also, that “ the north bank was most frequently the lower ; several small streams fell in on that side ; the Macquarie may be the natural reservoir or channel for all the waters from the N. E.,” the ordinary depth of this river was from twenty to twenty-four feet, a depth which it had maintained, with very little variation, for more than the last hundred miles of Captain Oxley’s route ; therefore, supposing that gentleman had not missed the principal channel of the river, it would, at its junction with or *embouchure* into a lake, have been still deeper instead of being reduced to the depth of four or five feet. The rapidity of the current at its junction with the inundation, and the rapid subsidence of that inundation, favors the opinion of the waters having a channel or outlet of some kind or other at the back, by which they were drained off, and which consequently kept the current continually running ; but if the inundation had been a lake, the current would have ceased, and become stagnant at the point of junction, similarly to that of the Lachlan.

“ The dissipation of a body of water so vast as to cover an area of level country, of which

the circumferential line was distant, in the nearest spot, seventy miles, without any outlet, would have occupied several months by absorption and evaporation; and its subsidence, in two days and a half, could only be through the medium of a channel as large as that of the river itself." There can be little doubt but that the Castlereagh river, which "is in no respect inferior to the Macquarie," unites its waters with those of the latter. When the Castlereagh was swoln by rains, the body of water in it was still more considerable than the Macquarie, and it ran at the rate of from five to six miles per hour, bringing down with it great quantities of driftwood and other wreck: but the subsidence of this volume of water was equally rapid with that of the Macquarie, and most probably was drained off by the same or a similar channel. The course of both these rivers is to the north, but if the inclination of the country is towards the N.N.W. it is much more likely that they should take a bend in the direction of the slope, and continue their course that way, than to make a sharp turn to the eastward, and debouche through the Blue Mountains to the east coast, where, in no part, do we hear of wrecks of large trees having been found brought down from the interior, as is the case on the N.W. coast. Captain King says, "the greater part of the sea beach of the east

coast, from latitude 22° to Cape York was seen by me, but nothing like a river or opening of any consequence was observed."

Mr. Wentworth observes, "that the rapid subsidence of that immense accumulation of water, at the commencement of a supposed interior sea, has demonstrated that that sea cannot be proximate to that spot, unless there be, close at hand, a sudden and instantaneous depression of some hundred feet in the general surface or level of the country;" but even then, it could not be the said supposed sea, as a sea could not subside in that manner. But as I have before proved; there cannot be a Mediterranean sea, as the hot winds at Port Jackson blow from the N.W., and doubtless imbibe their heat from the immense track of country which they traverse; if there was a sea these fierce blasts would be very different from what they are. There is reason for believing that the land-winds receive their heat from the condensed atmosphere of the vallies in mountainous regions.—(Asiatic Journal, vol. ii. pages 368 and 369.)

The climate to the westward of the Blue Mountains is colder during the cold season than it is to the eastward of those mountains; which is an additional proof of there being no sea; for it is a well known fact to seafaring men, that the sea air is milder in winter and cooler in summer than the air which blows over con-

tinents or large tracks of land at similar periods : therefore, if there was an interior sea; the land winds would be cooled in summer and rendered less bleak in winter. Hall's Encyclopædia says, "when lakes are placed in warm climates at a great distance from the sea, the exhalations raised from them by the sun, cause the countries that border upon them to be refreshed with frequent showers, and consequently prevent their being barren deserts." An officer who had traded on the west coast of Africa, assured me, that the easterly winds which came across that burning continent were unpleasantly cold at particular periods, while at the same periods the air from the Atlantic ocean was mild and soft. These are precisely the characters of the winds in eastern Australia ; and a stronger proof there cannot be, of there being no interior sea to cool the summer winds, or render mild the winds of winter.

But after all, should an inland salt sea be discovered in Australia, it would most likely possess some features similar to those of the Caspian. The Journals of a Russian naval officer (*vide* Asiatic Annual Register, 1804) says, "In the Caspian there are no tides, but hard gales of wind raise the water three or four feet, and sometimes more ; and when these gales cease, the water returns to its ordinary depth, with a prodigious current and turbulent sea;

the same on the Persian as on the Russian coasts, but stronger and more irregular on the latter, by the streams which issue from the Wolga, the Jamba, and the Yaeik: this occasions the loss of many vessels, for the force of these currents is apt to deceive.

“The Russian vessels generally draw nine or ten feet water, and as they run into eleven or twelve feet before a S. or S.E. wind, which frequently raises a rolling sea, it must necessarily endanger their security. There are so many sand banks, shoals, and rocks in this sea, that it appears the safest plan to use continually a deep sea-line with a very heavy lead, to be steady in a current.

“There are generally seven and a half feet water on Yerkie Bar, but upon extraordinary winds, the surface rises to nine or ten feet. In order to sail over Yerkie Bar, steer when you get to the lower part of the river below Yerkie and are past the reeds, a little westerly. All the coast is low and marshy, the air over it being generally hazy, it is difficult to distinguish places.

“The land both at Chitcheena and Kulalie is low and marshy, and at spring and fall is generally attended with great fogs. The island of Toolena is rather a shoal than an island, for when the water is high, nothing but reeds appear upon it. Several parts of this sea are

scarcely safe to navigate except by daylight and keeping the lead constantly going, as the shoals and sand-banks shift, and several islands have become shoals by being submerged.

“The river Sefietrood having seldom above three feet water at its entrance, is of no use to ships, though there is very good depth within the bar: a rapid stream runs from it into the sea with a great eddy; if you get into this eddy with little wind, there is great danger of being driven ashore, as many Persian vessels have been lost in calm weather. About four miles up the Sefietrood a small channel runs into the lake of Enzellee.

“The river which runs up to the cove of Langarood is almost concealed with reeds: its course is N.E., and there is a shoal of seven feet, but it afterwards deepens to two fathoms.”

Supposing the Macquarie river emptied itself into a Mediterranean sea at the point where Captain Oxley's progress was stopped by reeds, the entrance of that river would bear a striking resemblance to that of the river up to Langarood, and not very unlike Yerkie river. It must be acknowledged, that as far as low level marshy coasts and reedy shores are concerned, the Macquarie inundation much resembles the description of the Caspian sea.

It is remarked, that one of the great causes of the inundations which take place in the

rivers of the colony, is the small fall that is in them, and the consequent slowness of their currents: the water therefore, which, during the rains, rushes in torrents from the mountains, cannot escape with sufficient rapidity; and from its immense accumulation, soon overtops the banks of a river and covers the whole of the low country. The Macquarie inundations may arise from the same causes, though upon a much larger scale; it is a large river; it receives a proportionally larger quantity of water from the great extent of mountains and country which furnish the supply; consequently its inundations must be of a greater magnitude, which thus easily accounts for the supposed lake, though it may not necessarily prove on further examination to be a real lake. Were this part of Australia inhabited, it might answer to the description contained in the following extract of a letter, dated in Bengal, September, 1818. "The river Ganges has risen higher this season than it has done for many years, and is more like a sea than a river; the country for above ninety miles has been entirely under water. There are hundreds of villages completely inundated and nearly deserted; all intercourse is carried on by boats, which are seen sailing in all directions amongst groves of trees, and over fields of grain, the tops of which are just above water. On the banks of

the river, as the villages are built on mounds, beautifully wooded on all sides, they assume the appearance of luxuriant little islands."

Having had the temerity to hazard my conjectures of a great river flowing for nearly fifteen hundred miles through Australia, from a height of not more than six hundred feet above the ocean, with a sluggish imperceptible current, unsupported by any data, or at least very slender data to ground my opinions upon, the idea of which may startle some, and be thought the height of absurdity by others, I must now leave further argument of the subject, with a disinterested hope that my conjectures will ere long turn out to be well founded, for the benefit of the world more than for any selfish gratification; and shall now proceed to offer a few suggestions for the conduct of the expedition.

On arriving at a river which is intended to be crossed, or at a swampy suspicious level, where possibly a sudden and partial inundation might surprise the expedition, the gentlemen should not separate or straggle away from the party, or lag in the rear, but all should patiently remain with the provisions; and in proportion to the quantity of provisions crossed over the river, a certain number of gentlemen and part of the military should cross over with it; that in case of accidents by any sudden overflow of the

neighbouring shores from the river rising and coming down like a torrent, none of the party might be cut off and isolated without a guard or subsistence. I was once witness to an accident of this kind in India, when several officers left camp one fine morning, and before their return, a very deep Nullah which surrounded us, though perfectly dry when they set out, was full to the brim and rushing down with tremendous fury in the afternoon, nor was it possible to ford it in any other way than on the back of an elephant. A neglect of the above advice under similar circumstances, in Australia, might be attended with the most melancholy consequences; for in addition to the certainty of being without the means of subsistence for several days, in sight of abundance on the opposite shore, the isolated travellers might also be attacked by an unexpected tribe of Indians.

When a lake or large river is to be crossed, the two canoes should be launched and lashed together, and the platform fitted upon them, whereon a sufficient quantity of provisions should be stowed; then three men should be seated at the stem and stern in each canoe, making together twelve rowers; they might then be sent with perfect safety to any part of the lake consistent with their stock of provisions, or across the river to survey the op-

posite shores for a fit spot to disembark the expedition upon; which having found, they should return, and if the river be not too wide for the purpose, they might fasten the end of a cable or strong rope to a tree on the hither bank, and carrying the other end of the rope across, do the same thing on the opposite bank : if there are no trees the rope might be attached to grapnels buried in the ground. It would greatly facilitate the transportation of the baggage by having the jungar handed along by the rope, as is extensively practised in India. If the river is too broad to admit of a hand rope across it, the gentlemen might be rowed over in the jungar, and the baggage sent across in the basket-boats pushed along with bamboos, behind which the horses might be towed, and the cattle made to swim across led by a tractable bullock or two.

When the operations of the expedition are carrying on in a level part of the country, far from any rising ground, every precaution should be taken to guard against the deceitfulness of dry fine weather, as that is the time when the Australian levels are usually laid under water : the basket-boats should all be kept in a state of readiness at a certain spot in the camp as well as the canoes, with anchors and grapnels previously fixed in the ground, and ropes or chains for moorings attached to them : provisions and

stores conveniently situated for loading the boats with dispatch, and a strict look out should be kept from the mast head for the insidious approach of surrounding waters. If the country is as free from trees as it is from hills, the mast would here be found of the greatest service, in enabling a sailor to go up to the top and give an account of the distant country in advance, or of that to the right and left; a river or piece of water might be discovered by its means.

It is to be hoped that the expedition might never be put to the trial, and that its daily movements through the interior might be so directed, as to keep within view or reach of some eminent land, so as not to incur the risk of being surrounded by a vast inundation; at the same time, all proper measures and expedients should be pursued, as if it was certain of being overtaken by such a catastrophe.

As an example of what might be done to preserve the lives of the human part of the expedition, though not those of the quadrupeds, which would almost inevitably be drowned, unless they were, by instinct or good fortune, to swim or be borne along to some unknown elevated ground, I will suppose the camp of one of the divisions of the expedition to be flooded, and the water gradually rising; every body being equally distributed in the basket-boats with all the provisions, they should let out the

mooring ropes in proportion as the water rose higher, and keeping patiently together without giving way to alarm, they would run no risk ; but should remain on the same spot waiting for the subsidence of the waters, which always taking place in much less time than they are rising, would probably occur in a day or two ; and the ground being speedily dried by the sun in that climate, they should either join one of the other divisions, or make the best of their way back to the depot. The saving of the people's lives is all that can be provided for on such an occasion, and this I hope might be effected by the foregoing plan ; but they would be obliged to let the cattle loose at the commencement of the flood, few of which, if any, would afterwards be found, and this would be the only unlucky circumstance ; but perhaps a few of the horses might be blindfolded and previously secured on the jungar, which having a handrail round it, they would be as quiet as in a stable, and they might be fed with steeped gram during the continuance of the inundation. Should the water even rise to the height of ninety feet, they would have nothing more to do than to continue letting out the mooring ropes of the basket-boats and the chains of the jungar. The serviceableness of these articles should be always considered a matter of the utmost importance, and it would be as well if

one of the gentlemen held the appointment of inspector or superintendent of the inundation tackling.

The commanding officer should set the carpenters to erect wooden choultries or bungalows (sheds for travellers to put up in) at the several stations where the expedition might halt, as well as at every other eligible spot in the vicinity of water, provided timber be procurable: these choultries would be useful resting places to the convoys, for so long as the expedition remained abroad on survey. The boat-builders also should be set to make canoes or rafts at the several rivers crossed by the expedition, which should be left at those places for the passage of the succeeding convoys of supplies. Substantial wooden bridges might be thrown over any very deep ravines or narrow rivers too deep to be forded, wherever practicable, for the same purpose. The Indians are so indifferent about these things, that I believe they would remain unmolested and without the necessity of any guard.

CHAPTER VIII.

ON DESERTS.

MUCH has been said by various navigators on the supposed barrenness of Western Australia; judging from the appearance of many parts of the west and north-west coasts, they have been too apt to draw their inferences therefrom, as conclusive evidence of the whole vast interior being all of the same description.

One of the reasons for condemning the interior as an arid desert, are the fierce hot winds felt occasionally on those coasts; but, that scorching winds do not always proceed from sandy deserts, is pretty severely recognised at Sydney sometimes, when those kinds of winds have been known to be heated by extensive conflagrations of the back country, which, having been explored in all directions, is well known to be beautiful and luxuriant in woods and forests, fine natural parks, and fertile val-

leys and meadows : why may we not suppose that similar extensive conflagrations in the woods, far out of sight of the coast, during the dry season, would produce similar effects on the thermometer off the north and north-west coasts, instead of condemning the interior to rank with the burning deserts of Africa and Arabia. Besides, as the sun's rays in a warm climate are concentrated in the valleys, the condensed atmosphere of which being forced out and carried along by the winds, not only causes the heat in those winds, but is an indubitable proof of there being mountains and valleys in the interior, and if mountains and valleys, then water also, either in rivulets or standing pools.

I am disposed to think that a belt of sandy and desert country, of from fifty to a hundred miles in breadth, lines the shores of those coasts, parallel therewith, in a greater or less degree, and shutting in the more fertile interior; bearing some resemblance to the Coromandel coast, which, previous to being inhabited, must have presented a low barren sandy track, nearly to the foot of the eastern branches of the Ghauts: that coast is, even at this day, surprisingly naked of trees in many parts, and here and there sprinkled with a few low barren rugged hills, exactly answering the descriptions of similar hills visited by Captain P. P. King,

on the north and north-west coasts of Australia ; but population and the arts have produced numerous large tanks or reservoirs for preserving water ; fine groves, and sheets of rice fields, mostly watered by the industrious hand of man, otherwise it would be all like the desert or jungle in the Gingee and Tiagar districts. The Coromandel coast itself, however, still preserves its broad sands, covered with the gigantic ground convolvulus and wild indigo, and presenting other barren desert-like appearances for many miles, besides several large salt-water lagoons at the back of the beach, parallel with the low sandy shores, as well as many shallow rivers, which are only full during the rains on the Ghauts. I have not much data to ground my belief upon, yet I feel persuaded that the whole of so vast an interior as that of the continent of Australia cannot be a desert, but will be found to consist of ranges of hills, commencing at a certain distance from the west coast, the irregular branches or debris of an inferior range of mountains ; also extensive savannas or plains, sprinkled with chains of ponds or lakes ; numerous dry beds of water courses or mountain rivulets, discharging torrents in the rainy season, and in the bottom of which water might always be found in the driest weather by digging.

The coasts of countries situated within or

near the tropics, very generally present either a bold rocky or a low sandy front to the sea; and for the most part only producing a stunted vegetation or none at all, the truth of which the accounts of numerous voyagers will corroborate: the following observation may be thought apposite to the subject, and tend to shew that the saline atmosphere of the sea is opposed to nature's works in the vegetable kingdom, unless assisted by human agency. When I sailed along some parts of the Coromandel coast, it appeared to me a low, sandy, and barren country, and nothing could be seen of the stupendous Western Ghauts, on account of their great distance, being four or five hundred miles to the westward of that coast; and had I not known the geography of the interior of that part of India, I should have been tempted to condemn the whole, as consisting of nothing else but vast, sterile, burning, sandy deserts, exactly as Freycinet and other geographers now do Western Australia, from the appearance of the north-west and west coasts; but the richness, beauty, luxuriant fertility and sublime scenery of the interior of Southern India, shews, in a strong light, the impropriety of thus sweepingly condemning the interior of any country on account of its mean outside. We have, however, some proofs of the fertility, of not only parts of the coast, but of the inte-

rior, in P. P. King's interesting narrative, which I hope will be conclusive; for where the earth is productive, there the inhabitants of the woods will multiply; *ergo*, there being multitudes of animals, the earth must be productive. Captain King says, "It is remarkable that, at all the principal places on the north and north-west coasts, ——— and kangaroos were noticed, and at several they seemed to be very numerous;" some parts of the country bordering on the coast appeared also to be very populous; and the swarms of kangaroos, and large timber seen in some places, go far to prove there must be forests somewhere in the interior.

I have, in another part of this work, made the remark, that the outward conformation of the west coast of Australia resembles that part of Western Africa from Cape Palmas to Cape Verd; it may therefore be reasonably expected that there will occur some resemblance in the interior of those parts respectively; for instance, that high range called the Mountains of the Moon commence near the Atlantic, and extend almost across Africa, but whether they give birth to any other river than the Niger I believe has not yet been ascertained. There is a high range of mountains called Moresby's Flat-topped Range, on the west coast of Australia, which I am much inclined to think is the commencement of a series of ranges of mountains,

extending in a N.E. by N. direction, towards the centre of that continent (as is shewn in the accompanying map), and that branches shoot off both northerly and southerly, from whence numerous streams flow towards the lowest portions of the country, the dead level previously spoken of, where they would naturally form a junction with any lake or great river situated there; and that the countries in their vicinity are covered with forests of large timber, some of which, growing on the banks of the streams, have been swept down by the freshes in the rainy season, are left high and dry on the retiring of the waters; and that those were some of the trees so left of which Captain King makes mention, observing that they came from the interior, as none of so large a size were seen any where growing on the coast.

Captain King observes, that he almost always had to encounter very high winds on the west coast, which seems to favour the idea of a mountainous country, the tops of high mountains serving as a perpetual attraction to the vapours of the surrounding surface.

Having presumed to state what my opinion of the interior is, it will now be proper to say something of deserts, which it would be absolutely necessary the expedition should be prepared for.

The first question which naturally strikes one,

when contemplating an unknown country supposed to possess no rivers, is this ; If there are no rivers in the interior there must be lakes or ponds, and if there are no lakes or ponds, what becomes of all the rain, or does it continue for three years without rain, as in Egypt ? or as at Houssa, in Central Africa, where, Mr. Jackson says, it never rains, at least he was informed so by a mussulman of the name of Shah Beezee, who resided there two years, during which period no rain fell.

If Central Australia should be such a climate as that of Houssa, and withal possessing neither rivers nor lakes, it would be both impossible and useless for an expedition to penetrate it : but if the deserts resemble those of other continents, which it is but reasonable to suppose they do ; it would scarcely ever occur that the expedition would be obliged to carry water for a greater distance than five or six days' march, without finding some inequality in the surface of the country where a spot might be found by reconnoitring from the mast head, affording evidence of water under ground, which might be reached by digging. The Arabs are so accustomed to this method that they sometimes discover where water exists under ground by examining the soil and plants, when by digging a pit it will ouze up.

“ The Deserts of Africa are dry and health-

ful, the reverse of the fertile spots that are hot and humid : the former are frequently sprinkled with fertile spots which form a succession of known resting places, and the distance between each requires a certain number of days to travel ; the fertile spots serve as inns." Probably a great desert in Australia might possess a similar chain of fertile spots.

Although camels are not used in Australia, the following brief account of the progress of a caravan to Timbuctoo, through the Great Desert, may afford a few hints on the subject :—
“ The caravan, consisting of from 300 to 400 camels, having left Draha, at the distance of three days' travelling they found water by digging, and on the next morning they entered the Sahara or Great Desert, which, for the first twenty days, is a plain sandy desert, resembling the sea. In this desert, when they pitch their tents at night, they are obliged frequently to shake the sand from their tops, or they would be overturned with the weight before morning. Some part of this desert is hard, and the camels do not sink deep into it ; in others the sand is loose, which fatigues them very much. Their course is directed by the stars at night and by the sun by day, and occasionally by the smell of the earth, which they take up in their hands. For the first twenty days after they enter this wilderness they have no water ; during this

period the caravan is obliged to carry water in goat-skins (much larger skins than those of English goats), as not a drop is to be found by digging: on this account about a third-part of the camels are employed in carrying water, and even with this quantity the camels are often left for three or four days without any. It is necessary to calculate the number of these animals that will be required to carry water previously to the setting off of the caravan. Neither the thorny plant or wild myrtle, nor the wormseed plant, are found in this part of Sahara, although they are common in the other deserts of Africa. Mules are never used in this part of the journey. The number of men with this caravan generally amounts to four hundred, all well armed, and most of whom walk on foot.

“After passing this desert of twenty days, they enter a country which varies in its appearance, particular spots being fertile: here they meet with the thorny myrtle in great quantities; its height is about that of a man, and the camels feed upon it; between these bushes there is a very small quantity of grass in some places. In this part of the desert there is an extensive strata of stones; though the surface is generally sand, yet at the depth of eight or ten inches they meet with a yellow or reddish earth, and, about four feet deeper, with another kind of earth of various colours, but mostly of a

brownish cast; and about five or six feet under this they find water, which rises slowly, and is sometimes sweetish, frequently brackish, and generally warm. This last desert is also about twenty days' journey, and is, throughout, a vast plain without hills. In this journey of forty-three days, from Draha to Timbuctoo, neither trees, rivers, towns, nor huts, are met with."

The following extracts from memorandums for the officer commanding a column of General Baird's army, will be found further illustrative of the subject of marching through a desert; and a few hints may be gained therefrom that might be of use to an expedition endeavouring to explore a desert in Australia.

General Baird having procured 5000 camels at Cossire, immediately arranged the march of the different divisions, facilitating their passage by establishing posts at the different wells in the desert, and digging others.

"Camp, Cossire, July 20, 1801.

"You will proceed with the detachment under your orders, on the evening of the 20th instant, to the new wells, distance about eleven miles.

"The wells are a little off the road, therefore be careful not to pass them, nor allow your camels and baggage to miss them. An officer's party is stationed at the wells. On your

arrival there, which will be about eleven o'clock at night, you should not allow your men to straggle about, or keep each other awake, as a good night's rest will enable them to make the march of the next night with more alacrity. In the morning, half a pint of wine should be issued to each man, and their rice, which they must cook for that day and the following.

“The men's canteens should be filled with congee, or the water in which rice has been boiled; and just previous to their marching, another half pint of wine should be given them, to mix with their congee. The men should be kept in their tents, and as quiet as possible, during the heat of the day.

“The musshucks, or water bags, will be filled up at the wells, if any should have leaked out.

“As you will find plenty of water at the wells, of course you will not use any of the water carried from this. But be extremely careful of your musshucks, that they do not get damaged, particularly in lifting them on and off the camels, which ought to be done with a tent pole.

“On the evening of the 21st, you will proceed half way to Moilah, which is about thirty-three or thirty-four miles from the wells; therefore, if you start from the wells at five o'clock in the evening, and march till twelve

at night, you will have marched $17\frac{1}{2}$ miles (at the rate of two miles and a half an hour), or half way to Moilah. You will halt there, and in the morning issue half a pint of wine per man, and the rice which was cooked the preceding day. No water is to be had at this halting place; you will, therefore, issue to the troops and followers, from your casks and musshucks, a proportion of water. Two gallons of water for each man is sent with you, with an allowance for leakage. You should, therefore, in the morning issue a gallon per man, and fill the canteens in the evening before you march. If you find you still have water to spare, you will issue it at your discretion. On the evening of the 22d you will proceed to Moilah, where you will meet an officer's party. Water and provisions are to be had there. You will indent on the commissary for two days' provisions, to be carried with you, to serve on the way to Legaitte.

If you find your men much fatigued, you may halt one day and night at Moilah, and on the following evening you will proceed to the advanced wells, about nine miles beyond Moilah; there you will fill up your musshucks, and cook rice for the following day. Your next march is half way to Legaitte, which is about thirty-five miles from the advanced wells. You will take the same precautions and measures on this

march, as directed in that from the wells to Moilah; for as there is no water until you arrive at Legaitte, you must carry your provisions cooked for one day, and be very careful of your water. Your next march is to Legaitte, where you will find water and provisions. You may halt there a day and night if you find it necessary. Your two next marches carry you to Ghinna, distance twenty-eight miles.

“You will find fresh meat at Moilah and Legaitte, which you will issue to your men, also spirits, as your wine must be used only on marching days, at the rate of one pint per man.

“You will endeavour to dissuade your men from drinking a great quantity of water, which has been found very hurtful and weakening; and when you are at those stations where water can be had, your men should be marched to the wells to fill their canteens, morning and evening, and no more should be allowed. At those places where they cannot cook their victuals, they must be persuaded to eat what was cooked the day before, as they will not otherwise be able to perform the succeeding march through faintness and weakness.”

Now, supposing an expedition of discovery should arrive on the borders of what might appear to be a desert similar to those of Africa; all that the commanding officer could do, would

be to detach a small lightly equipped surveying party, from one of the divisions, with a proportion of the cattle loaded with water, with orders to penetrate as far in advance as the supply of water would admit of, including enough to serve on their return. Possibly the detachment might reach an oasis, which of course would be laid down in the map as the first stage on that course, and consequently from its affording trees for shelter and firewood, as well as plenty of water, would be made available for the prosecution of a further research into the desert by another small party.

If the interior of Australia is a mere sandy desert, I submit that the only way to come at its geography, and to ascertain the positions of the various oases it may contain, would be by detaching simultaneously several small parties in different directions, equipped as above; when having discovered as it were a chain of fertile spots, a party might be kept in advance, pursuing the operations of the survey, by having their supplies of provisions conveyed from one oasis to another until it reached them; and it is not impossible but that they might alight upon a forest and a river as unexpectedly in the midst of the desert, as the first founders of Timbuctoo may have done the Niger and its forest.

In the survey of an extensive flat country, if a ship's mast were carried along with the party, it would be an invaluable article, as it would afford a view of a greater extent of horizon and a complete command of the surface of the surrounding country. Lieutenant Grant relates a whimsical anecdote on the subject of the want of water in his "Voyage to Western Port in 1801." He says, they were extremely at a loss for water when on shore, and hunted about a long time to no purpose, when the croaking of a bull frog relieved their necessity by indicating the spot where it might be found: in fact they were led by the frog to a very plentiful supply. This may serve as a hint to travellers in a woody country, but frogs I rather think are not inhabitants of deserts: a tall mast would be the best indicator where to look for water, in exploring a vast sandy level.

As it would not be advisable nor scarcely possible, to detach a surveying party from the expedition into a sandy desert for a longer period than ten days, allowing five days' march outward and five days to return, affording a reconnoissance in any quarter of fifty or sixty miles, at little more than the rate of ten miles per day; a calculation of the quantity of water and supplies for a longer period is not necessary. The reader will observe the great disadvantage

a party would travel under, with bullocks instead of camels; the latter will go from fifteen to thirty miles per day, and only one-third of the number are required to carry water; but the former (as I have often witnessed) find it laborious work to wade through loose deep sand only ten miles, and probably one-half the number would be required to carry water, instead of one-third.

I will suppose a surveying party, consisting of one surveyor, one naturalist, one surgeon, one military officer, six soldiers, and one cook, total eleven persons, be detached on a reconnoissance into the desert for ten days.

Ten bullocks would carry the food of the eleven people, that of the four officers' horses and their own, for the ten days' consumption. Then as one-third the number of camels are water-carriers with the caravans in Africa, we will double the number and say two-thirds the number of bullocks ought to do the same duty. Therefore, if we take the allowance of water of the eleven persons at equal to the allowance of eleven quadrupeds, which would be including sufficient for cooking; the above ten bullocks and four horses, added to them, would amount to the same thing as twenty-five bullocks, requiring two-thirds of that number as water carriers, say sixteen bullocks.

Then according to the preceding table—

BULLOCKS.	MAUNDS.
16 Their food for ten days is - -	gram 8
5 To carry that and their own food - -	2½
Say six bullocks for even number, requiring two-thirds of that number as their water-carriers, or	
4 Bullocks whose food for ten days is - -	2
1 to carry that and its own food - -	½
26	13
10 first loaded bullocks whose food is - -	5
Food of the four horses	
36	4
Total maunds of gram	
	22

Total provisions for the men, three maunds of rice, or wheat, and 110 pounds of meat.

Total of cattle, four horses ; ten bullocks to carry the food of the party, that of their horses and their own ; twenty bullocks to carry water ; six bullocks to carry the food of the water bullocks and their own ; altogether thirty-six bullocks, which the six soldiers would be fully capable of attending.

Canteens of wine or spirits, as well as blankets for temporary shelter, would be best taken care of, slung on the officers' horses.

CHAPTER IX.

ON CLIMATE AND SICKNESS, &c.

PERHAPS the most fearful danger attending an expedition to the centre of the Australian continent, would be a general attack of sickness; an event which might prove fatal to the whole party if without the highly necessary attendance of a medical officer. Having planned the expedition to act in three divisions, although in concert, and under the command of one head, it was necessary to number three surgeons among the party, that each division might have a medical attendant; affording at the same time, the possibility of always sparing one, either to accompany the successive detachments of reconnoissance during the progress of the expedition through the country; or to remain stationary at any eligible spot for a depot for receiving and awaiting the arrival of supplies, and for the recovery of invalids.

Deserts are generally healthful, owing to

their dryness and the absence of that vegetable matter which generates virulent miasma ; but their great heat in Arabia causes the Arabs to faint, according to Niebuhr, who says, " the Arabs use garlic and raisins for the purpose of reviving persons who faint from the effect of the hot winds." Now Arabia being included between the parallels of 13° and 30° of north latitude, and central Australia being included between 15° and 35° of south latitude, together with its being a generally received opinion, that any given latitude in the southern hemisphere is several degrees colder than the corresponding degree of latitude in the northern, it seems but reasonable to conclude that travellers would not run the least risk of encountering such great heats, nor in fact any heat so incommodious as to excite any cause for apprehension on that score ; it then only remains to say a word or two respecting the most common accompaniments of troops, or exploring parties in fertile tropical countries.

In Australia the morning air is at particular periods of the dry season, so cold from a copious fall of dew, that it would be the height of imprudence in any individual of the party exposing himself to it without proper and sufficient covering or clothing ; and cloaks, great coats, and blankets, are indispensable to the

preservation of health: cold nights, and calm hot sultry days succeeding each other alternately, are sure to induce bad fevers if the foregoing precaution is not strictly attended to. Young men from over much zeal or placing too much reliance on their own physical strength, are prone to expose their health most unnecessarily and rashly, on occasions when such a sacrifice is not demanded; and many a one has lost his life, the consequence of a day's pleasure. I knew a young officer in India, who, after wading a whole day through irrigated paddy fields, snipe shooting, exposed to a scorching sun, was immediately taken ill and carried off by a dysentery.

It is not my intention to prescribe for the sick, or tell the medical officers what they know better than myself; but should the expedition consist exclusively of young men, who would disdain to economize their health and strength without the constraint of superior authority, the commanding officer would do well to enforce the observance of a few common prudential rules throughout the expedition.

Dysentery or flux, and fatigue fevers, are probably the most likely sicknesses to attack a party employed, for a long time together, surveying in the interior; and as the commandant would occasionally make a halt of a week or a

fortnight, at stated periods, or in particularly interesting situations, which his progress through the continent might bring him to, or where the apparent promise of some important discovery might demand a longer examination and more minute survey; he should not fail to fix his head-quarters, during such halts, in the most healthy spots, either on dry elevated ground, or, if the country is a level, in an airy open space; and while he sent out small parties to rough-sketch the surrounding country, any one whose state of health, from fatigue, required rest, might be advantageously employed at head-quarters, writing up their journals, or filling up their maps; and by the time the last division was ready to follow the other two, they would be recovered and able to join it.

But in the event of any gentlemen of science being so ill as to disqualify them from proceeding with the expedition, with any hopes of speedy recovery or advantage to the service, a spot should be selected near wood, water, and rising ground, if possible, where a depot might be formed (as I before hinted, a page or two back), and made stationary for a length of time; a surgeon, the sick men, and a few of the least useful hands should remain there, and keep up a communication both with the last depot in the rear (where a corporal's guard is supposed

to be stationed), and with the divisions in advance; and by this route, although a distance of three hundred miles might intervene between depot and depot, yet all the convoys of provisions and stores should be forwarded. The country and land-marks would be very soon familiar, and a sufficient drove of fresh young bullocks should be always ready at each depot, to forward every fresh arrival of supplies. If the Indians were found to be troublesome, a breastwork, in the form of a triangle, might, with very little labour, be thrown up a short distance round the sick huts, within which none should be permitted to enter.

But when it is absolutely necessary to have the invalids carried with the expedition, they might be safely accommodated in the two canoes, each of which being slung between four ponies, and a small awning fitted over them with hoops, would be as good as the best litter.

If the sick list should increase very fast and become numerous, without a prospect of a change for the better, which would probably be owing to the unhealthiness of the country they were arrived in, the sick should be mounted on all the spare cattle, and no other alternative offering, they should make the best of their way back again out of the country. In this case, trial might first be made to seek a higher or a

more open country, by quitting the unwholesome spot and moving a great distance to the right or left, for a drier or cooler atmosphere ; all of which proving unsuccessful, the expedition would be obliged to return home. I have thus merely sketched a possibility, but, I should hope, not a probability, that the subject might be viewed in every light.

CHAPTER X.

ON EXPLORING THE WELLINGTON.

THE discovery of the river Wellington goes far to prove the reasonableness of my theory of the interior of Australia, in which I observe I am supported by the opinion of a gentleman at Sydney,* whose judgment ought to give weight to it. At the spot where Captain Sturt quitted the Wellington it was about three-quarters of a mile wide, and only 500 feet above the level of the ocean, consequently a river of that considerable width, at so great a distance from the sea, if its *embouchure* be at the N.W. coast, must have so little fall in it, that we may calculate on the certainty of its having no rapids; and although the country in its vicinity is a level desert, and no hills could be seen to the westward, yet it probably winds its course past hills further in the interior, and may, like the river

* *Vide* "The Picture of Australia," Mr. Allan Cunningham's letter in the Appendix.

Amazons, continue its slow stream through a vast valley. De la Condamine ran many imminent risks of being lost on some of the numerous mud banks and shoals in descending the Amazon's, and it is probable that numerous shoals would be found to be the principal dangers (though not insurmountable) in the navigation of the Wellington. Were there any rapids, it would be madness to attempt to descend the river, but the above reasonable argument against the existence of this species of risk, will, I think, be admitted by every traveller.

Having arrived at the conclusion that this river communicates with the ocean, and that it is also possible to descend it as well as ascend it, I shall humbly offer a few suggestions respecting its further exploration.

I would recommend that two simultaneous aquatic expeditions be prepared, one to descend the river, the other to enter it at Roebuck Bay, (which I feel convinced will be found to be one of its *embouchures*), and ascend it. Should any insurmountable obstacle occur, from obstruction in its navigation, to prevent the meeting of the two parties in the interior, their immediate return would be a matter of course; but if they should encounter each other, the parties would gain an immense advantage by their uniting and returning together, by the way which offered the most opportunities for interesting

geographical research, and for enriching the expedition with scientific collections.

The next affair to consider is, what kind of vessels are fittest for an expedition of this nature. It may be thought that light steam vessels are the most suitable, and that one might be conveyed in frame to the Wellington; but that, and the carriage of a large quantity of coals, would be too difficult a task to accomplish; besides, any accident to the steam apparatus would be more fatal in the centre of an unknown continent than on the ocean, and renders this plan ineligible; we must therefore look to another mode of proceeding. A sailing vessel would be of little use on a river in a desert, where the prevailing winds are not known, and where a long calm would waste the provisions; and a row boat would run the risk of being equally useless in case of sickness among the crew. I should therefore recommend, as the best vessel for the purpose, a flat-bottomed boat, schooner rigged, of about fifty tons burden, the paddle-wheels of which would be worked by the power of overshot wheels, or something of that nature, invented by the late Sir W. Congreve, (*vide* the plan of such a vessel in the *Mechanics' Magazine*, vol. ix. page 2), the current of the river serving the same purpose as the waves of the sea. It might be navigated by three men, say one at the helm, one

at the bows to heave the lead, and one to watch the machinery, the slightest stoppage of which might be prevented at any time, by the application of levers, or other mechanism adapted to the purpose.

As the progress of the expedition ought to be slow, five miles per hour would be quick enough, and would enable it to navigate 7200 miles in sixty days, and perhaps 5000 miles back again, in returning against the stream, in the same number of days, so that stores, provisions, and water, for fifteen persons,* for a voyage of three or four months, would be all that would be required; and as the course of the river may not be fifteen hundred miles, the overplus time might be profitably spent in halts, excursions, and surveying. The river being salt, no salt provisions should be sent, but only Donkins' preserved canister meats.

A gondolah, or half-cabin boat, of ten tons burden, with a substitution of paddles for oars, to be worked by two men, as represented in the *Mechanics' Magazine*, vol. vi. page 338, would be a useful consort, and might be indispensably necessary in piloting through the shallow parts of the river.

* One captain, one surgeon, one naturalist, one draftsman, one engineer boatswain, one blacksmith, one carpenter, six sailors, one boy, one cook,—total fifteen.

If these boats were sent out in frame from England, together with the machinery, they could be forwarded unpacked, in Masoulah boats, down the Macquarie, from whence they might be conveyed across the country to the most eligible spot on the banks of the Castlereagh for launching, where they might be put together, and from whence the expedition might take its departure.

It is not unlikely but that many branches of the river might be entered by mistake for the main stream; and I think it probable also, that large alligators may be met with, whose fierceness at night is so well known; none of the party therefore would be so careless as to sleep on the shore, nor desist from keeping a sharp look out on board, as these animals will try to seize people from a boat, and lie in wait with their proverbial deceit. These, and the danger of running on board large trees floating under water, or being sucked into the vortex of strong eddies and whirlpools, would probably constitute the principal dangers to be unceasingly guarded against in navigating this large unexplored river.

If the current should any where become rapid from the narrowing of the river, a *heavy* lead should be kept constantly going, as it is difficult to sound in a rapid stream. La Condamine's learned work, "*Voyage on the River Amazon's*,"

4to, with an Atlas, Paris, affords much information on the subject of navigating a large newly-discovered river. This ancient and interesting work has been overlooked, and was never translated into English, but I consider it more valuable and very superior to any modern voyages on the same river.

Should any important discovery be made along the course of the Wellington, such as its communication with a Mediterranean sea, the vessels I have recommended would prove of immediate service for carrying on the exploration of its coasts; and possibly a Mediterranean fishery might be one of the fruits reaped by the expedition, and might furnish, by some staple commodity, food and employment for thousands of poor families who might hereafter be settled on its shores.

CHAPTER XL

SCALE OF PRIZES FOR INTERIOR DISCOVERIES.

THE colonists of eastern Australia complain of the misapplication of their funds, of the obstacles* to their trade, and of the want of encouragement as well as a market for their agricultural produce; all of which objects would receive such a turn of fortune, such a stimulus, such a change for the better, by an expedition constituted after the foregoing plan, that it is scarcely necessary to point them out.

It would take fourteen years to make a rough survey of the interior, that part lying between 20° and 30° south latitude, and 120° and 150° of longitude, in which time I myself would engage to execute it, and produce as good a map as that of the present known interior of New South Wales, were I entrusted with the com-

* Since the above was written their Ports have been made free.

mand of such an expedition, and enjoyed a sufficient state of good health for so arduous an undertaking; for it must be allowed to present some risks, difficulties, and fatigues. The reader must understand I do not mean a minute survey, but something like the maps of a road-book, which being laid down on a large sheet would necessarily exhibit many blank places, exactly as Captain Oxley's map now does; but which, being of no great extent, are not of much importance. Such a map would sufficiently answer the purpose of completing the geography of the world, and it might be effected by taking a square of three hundred miles of latitude and longitude as a year's operations, there being fourteen such squares now blank in the map of Australia. Those squares bordering on the coast I leave out of the question, as they will successively become known, independently of interior expeditions, merely from the planting of new settlements.

Therefore, supposing the expedition to be employed fourteen years, the monthly supply of salt beef, wheat, bullocks, gram, (seed of vetches or cooltee), oats, spirituous liquors, &c.,—all of which might be raised or manufactured in the colony,—as well as the continual herds of bullocks necessary for the conveyance of the same, and a few horses, would operate as a stimulus to industry, and be as good as a

bonus or a premium for the encouragement of the colonial agriculturists; and the distance between the expedition and the colony increasing every year, would require the quantity of cattle and grain to be multiplied in the same ratio, to keep the convoys going between depot and depot; and finally, these public supplies for a public object being paid out of the colonial funds, would be putting their own taxes into their own pockets, a strictly just and beneficial result.

It would much encourage Australian discovery, if rewards were held out to travellers, after the plan of those for a north-west passage and north-polar discovery. I offer the following scale, as one, that may be adapted to the members of an expedition; and with a little alteration, it may be adapted to small parties or single travellers.

SCALE OF REWARDS.

Provided the expedition, marching from the eastward on or near the parallel of 25 degrees south latitude, reaches 120 degrees east longitude.

	<i>Acres.</i>
The Commanding Officer to receive.....	20,000
Second in Command	10,000
Surgeon to the Expedition.....	5,000
Surveying Officers, each	4,000
Assistant Surgeons, each	3,000
Military Officers, Naturalists and Draughts- men, each	} 2,500

	<i>Acres.</i>
Serjeants, Boatswain, Trades, each	500
Private men or attendants, each	100

and to be allowed their discharge, or if they choose to remain in the army, then immediate promotion, but no land. The land to be granted in any part of the continent of Australia or island of Tasmania, which the grantees may wish.

If the expedition only penetrates to 130 degrees east longitude, marching from the eastward on or near the above-mentioned parallel of latitude, then they should only be entitled to half the above rewards.

Or if it only reaches 140 degrees of east longitude, pursuing the same course on the same parallel of latitude or as near it as the country will admit of, and an inland salt sea or sandy desert (after the most persevering examination and efforts to advance, fail) obliges the expedition to return; then they should be entitled to one-fourth of the above rewards.

The same scale of rewards might be adjudged to any exploring party, who, taking their departure from George III. Sound, should penetrate to 145 degrees of east longitude, marching from the westward on the parallel of thirty degrees south latitude; viz. to be entitled to the full reward.

If the same party only penetrated to 135 degrees east longitude, marching from the westward on the same parallel of latitude, they should only be entitled to half the above rewards.

Or if it only reaches 125 degrees east longitude, they should be entitled to one-fourth of the rewards.

Again, if any party starting from Port Raffles on the north coast, should succeed in penetrating to thirty degrees south latitude, marching on any meridian of longitude they might choose; the full reward as above might be adjudged to them.

If they penetrated only to twenty-five degrees south latitude, then they should be entitled to half the above rewards.

Or if they only arrived at twenty degrees south latitude, then they should be entitled to one-fourth of the above rewards.

Although an expedition of the foregoing description, should for the present produce nothing but a map of the continent and a few volumes on its geography and natural history, without bringing any immediate benefits to commerce, and on that account meet with some disapprobation; we will hope that our present ministry will not regard the opinions of those who are opposed to every liberal and scientific pursuit because it costs money, or does not instantly promote trade;—remembering the long-tried truth, “that commerce and wealth are sure to follow geographical discoveries at a future period.”

CHAPTER XII.

MISCELLANEOUS.

PLAN OF A REGIMENT OF SURVEYORS.

I TAKE the liberty of suggesting, for the consideration of His Majesty's Commissioners for executing the office of Commander-in-Chief, the propriety of an additional staff corps to be formed exclusively for the service of Australia, and to make part of the British army; to be denominated *The Royal Australian Surveyors*. We have a corps of Royal Africans; Royal West India Rangers; Royal Corsican Rangers; Royal Regiment of Malta, &c., all peculiar to the countries or services they have been named after; and there would appear to be no great incongruity or inconsistency, nothing that could be called absurd, in forming such a corps for our southern colonies.

The surveying department in Australasia is totally inadequate to the magnitude of the

geographical surveys required in that quarter of the globe: the learned and scientific world must remain in utter ignorance of perhaps the most interesting and most extraordinary portion of the surface of our planet, until some public spirited nation bestirs itself for the development thereof; countries, of which the exposition would be as honourable to England as it would be useful; and when accomplished, all ranks and classes of men must either partake in the benefits, or reap pleasure from the knowledge acquired.

I should recommend the regiment of Royal Australian Surveyors to be entirely distinct from any other staff corps, and to consist of one battalion of the following establishment.

One Colonel—The Governor-General of Australia.

One Lieut.-Col.—The Surveyor-General at Sydney.

One Major—The Deputy Surveyor-General at Hobart Town.

Ten Captains—Each to superintend, either at ten several stations on survey in the interior, or at fixed residences in towns as Assistant Deputy Surveyor-Generals.

Ten First Lieutenants—To be always in the interior or elsewhere, carrying on surveys.

Ten Second Lieutenants—Ditto Ditto

Ten Companies—Each Company to consist of five sergeants and five corporals, but no privates.

All the sergeants and corporals should be well acquainted with reading, writing, and arithmetic; as their sole duty would be to

attend the officers on survey, and assist them in their operations.

Each detachment of the Royal Australian surveyors in the interior, should consist of one first lieutenant; one second ditto; four sergeants; and four corporals.

The uniform and pay of this corps might be the same as that of the royal engineers or royal artillery.

Their arms should be a long barrell'd fowling piece; a bayonet hilted straight sword to fit the piece; a shot and a bullet belt; waist belt for the sword; and a shoulder sling with horn full of powder.

The vacancies in the commissioned ranks might be filled up from the sons of respectable families born in Australia and educated there: thus forming an opening for that respectable class, a something besides the merchant's counting-house or a farm.

Supposing ten detachments to be out on survey, they would amount to eighty individuals exclusive of officers. The remaining twenty, therefore, should be the clerks of the surveyor general's or deputy surveyor general's department (the lieut.-col. and major) at the two great towns. These should be selected out of the fifty sergeants for their capacity and skill in surveying, and for their acquirements and improvements in writing and drawing maps;

plans, &c., through the medium of recommendation certificates from their officers.

Vacancies in the twenty (acting as clerks) might be filled up from the best improving hands out on survey; and vacancies in the corporals of the corps, might be filled up from the poor but educated Australian youth. This would be an honourable profession for the youth of the national schools to aspire to, and an encouragement as well as a reward to the meritorious; as Mr. Cunningham says, "they have too much pride to descend to the level of convicts in agricultural drudgery." They would thus learn the topography and resources of their native continent, enabling them on retiring from the service, to become superintendants of distant establishments; and in the course of another generation, this local knowledge would be the means of extending settlements in the distant interior.

The organization of this corps need not throw any body out of employment, as all the clerks and persons now employed in the survey department in Australia, might be enrolled in it at once, and ranked according to their respective stations in society, and their merits and standing in the office. Whoever declined it, might be at liberty to quit the department.

The government at Sydney would be in possession of a wide field of patronage, the right

exercise of which would attach both the rich and poorer communities to their rule, and thus bring about unanimity and loyalty in the colony.

The expense to government of this corps would be little more than what the present system of surveying Australia costs; the only difference being in the arrangement and numerical efficiency of the surveying department, allowing it to embrace a wider scope of operations.

An atlas, containing a minute survey of the continent of Australia, on a scale of four miles to an inch, should be the end proposed; and although this might be the work of many years, perhaps half a century, yet its utility, as far as it regards geography, and the future settling of that vast uninhabited country, would be of the highest degree.

ON EXTENDING OUR AUSTRALIAN SETTLEMENTS.

There are several places on the Australian coasts, which the voice of humanity would fain be heard in behalf of their being in the possession of Christian colonies; although, in a political or commercial point of view, they may prove but of little value, and may even incur some little expense in keeping up. The following are the situations I allude to: 1st. Rockingham Bay, on the east coast. 2d. The Caron river, or that of Maatsuykers, at the bottom of

Carpenter's Gulf, nearly parallel with Rockingham Bay, to which place a road of communication across the main land might be easily effected, (the more out of the way, and difficult of access, a penal settlement is, the better.) 3d. Prince of Wales's Islands, near Cape York, within the straits whereof "there are appearances of several good ports," right in the track of the India traders. 4th. Prince Regent's River, or Roebuck Bay; the latter is to be preferred. 5th. Cambridge Gulf. 6th. The bottom of St. Vincent's Gulf. 7th. Some place in the Australian Bight, or a few miles to the eastward thereof; and 8th. Shark's Bay.* The latter place seems to want those inviting outward appearances which render a new settlement an agreeable place of residence; but if it is recollected that the Cape of Good Hope, previously to its first settlement, must have appeared to the first Portuguese visitors, an equally barren sandy desert, and of as forbidding an aspect as Shark's Bay, without possessing one single other advantage than a roadstead nearly open, and comparing its then desolateness to its present improved appearance, containing a handsome town and many groves of trees; it will be allowed that Shark's

* Mr. Commissioner Bigge recommends also, that Port Bowen and Port Curtis should be colonized; and for very sound reasons.

Bay, if settled with a colony, need not excite any apprehensions of its failure, for the two places bear a considerable resemblance in some particulars, although not of a political or commercial nature. I spent a week at the Cape of Good Hope, and from what I observed of the sandy nature of the soil of that place, I should be inclined to think that Shark's Bay is full as capable of being improved, judging from the descriptions given of it by Peron and M. Arago; it is true, these voyagers state that there is no fresh water, and that the Indians have nothing but sea water to drink! but they have made this absurd assertion without even the trouble of examining the country. I am confident that there is fresh water not far from the spot; and I think it will be found a short distance inland, on the south side of Freycinet's harbour.

I think also, that the neighbourhood of Shark's Bay would not be subject to such violent gales of wind as the Cape, there being no Table Mountain; and that consequently plantations, vineyards, and farms, would be formed under greater advantages, and it would soon be a pleasant place of residence; but, in fact, the pleasantness of a settlement is not a question to be put to convicts; and, as to the military officers, and the detachment necessary for a guard, their agreeables and disagreeables change with their tours of duty, by the arrival of

reliefs. Captain P. P. King says, Shark's Bay is the only *anchorage* on the west coast; it would be the halfway-house between the north and south coasts, for the small traders and coasting vessels; and, as ships from Europe, bound to Eastern Australia, are of necessity obliged to pass near George the Third Sound, it would be also desirable that they should be obliged to call in at the latter port, and anchor for twenty-four hours; it would then receive its supplies and letters, both conveniently and speedily, and operate as a great inducement to many to settle there for the purposes of trade.

With the above-mentioned settlements all round Australia, it will be seen that the intervals of coast are so nearly equally divided, that little fear need be entertained but that the neighbouring tribes of Indians would soon become intimate with our power, and friendly to distressed mariners in future, and even the enemies of Great Britain must approve of her philanthropy.

Planting a colony is not only advantageous to the nation to which it belongs, but it is a benefit to all mankind; as, in process of time, it increases in size and importance, and multiplies commerce, dispensing riches and employment to thousands; but, as I have observed in the introduction to this work, trade should not be the only object in forming settlements; a

powerful, an enlightened, and, above all, a Christian nation, has, it is to be hoped, motives of far higher import, for sowing the seeds of civilization in savage lands, than mere *gain*. Will not the blessings of Christianity follow on the footsteps of every new settlement sooner or later? It is a duty imposed on Britain by Providence, that of carrying the tidings of the Gospel to the heathen of all lands, and it can only be done by settlements and intercourse. And kindness to shipwrecked people would be the very first fruits of such intercourse.

But expeditions for this purpose should be fitted out in England; for although there is no doubt of the philanthropy of the object, yet the method usually pursued in Australia proves injurious to the old colonies, by deducting from their resources, both in funds and labour, which, although it has been hitherto unavoidable, it would be as well not to pursue in future; as convicts, so far from being burdens to those colonies, are nearly the only means of facilitating improvement, by increasing the available labour of the colonists. They very justly say, "Let England fit out as many expeditions as she pleases, either for exploring or forming new settlements along the coast, but let her do so independently of our means, and without dipping into our colonial funds, or taking from us

useful and indispensable labour.”* This is a fair and reasonable expectation ; and as the new settlements have each occasioned a serious loss to the old ones, it is a brief but a sure way of trying the merits of the question.

With our numerous idle men of war, and fleets of merchants' vessels, how comparatively much more easily and efficiently can an expedition be sent from Britain to form a settlement, than from Sydney. And what is there to prevent her from sending off one or two every year, to form one or two new settlements, but the inconsiderate and ill-timed cry of, “it costs money ;” a cry raised by those who are obstinately blind to the benefits conferred on England by every expedition for the above purpose ; as if the departure of thousands of pauper families was not a relief to this country, or their forming an agricultural community in a distant land, to consume our manufactures was a misfortune ; a cry raised in the very face of the fact, of hundreds of thousands of pounds being lavished on objects of not one half the importance to Britain, that her commerce and the spreading of her children is ; witness the Milbank Penitentiary, which cost the startling sum of £500,000 for its erection, and £20,000 a year

* Asiatic Journal, vol. xxv. page 704.

paid for its maintenance ever since! a nearly useless expense, as it has not answered completely the object of its erection; but, on the contrary, hundreds of unprotected beings are turned out upon the world again from its prison walls. Oh, that that money had been employed in assisting our poor voluntary emigrants and wretched prostitutes to settle in Australia.

It seems to be the universal opinion, that our public men, who favour emigration, have chosen the wrong channel for the stream, in having directed it towards Canada. "It never seems to have been contemplated by the Emigration Committee, or by the Home Government, that Canada might, some day or other, fall into the hands of the Americans, or become a component part of American confederation; or that giving encouragement to emigration in that direction, was helping to raise up, in all probability, a powerful auxiliary to a country, which is by no means reluctant to enter into hostilities with England upon the slightest pretext."* The opinion contained in this extract I have heard expressed in several quarters, before it was seen in print, which proves it to be as general as it is evident.

It may be said that the very same argument may be used against peopling Australia, but

* Asiatic Journal.

there is as wide a difference, moral and political, between that country and America, relatively to England, as is the geographical positions of the two former. In two hundred years Australia may be a powerful sovereign state, but her great distance from England will prevent her fleets from annoying the British coasts and seas, in the event of the two countries going to war, of which there would never be the slightest probability, as their interests would never clash like those of America and England, owing to their opposite situations on the globe; and for the same reason their alliance, for the purposes of commerce, would be a mutual benefit. America is too near England, and too near Europe, not to be interested and take part in European politics, for or against England, just as it suits at the time. On the other hand, Hindoostan, at the distant period of Australian independence, will most likely be a christianized country, under an enlightened native government, for we could not hope to retain possession of India for so long a time; and as we have no other dominions in the east (except two or three insignificant Malay* and Chinese colonies), there would be nothing in that quarter of the world, either to excite the envy or jealousy of an Australian Government;

* Singapore, Malacca, and Penang.

every prospect of the future, therefore, so far as it regards the interests of Britain and the question of colonizing Australia, is certainly not against the policy of the thing, unless it could be proved that we could retain universal dominion to the end of the world.

The following very brief summary and substance of a debate in Parliament on the emigration question, discloses a few particulars so interesting, that it is hoped the reader will excuse its appearance here.

The expense of supporting the poor in Britain is at least equal to the cost of sending them abroad, leaving out of the question the increase of crime and the increase of misery; but it appears by Parliamentary documents, that the expense of their support greatly exceeds the cost of sending them abroad. A pauper cannot be fed, clothed, and lodged for a less sum than £30 per annum; therefore, a parliamentary grant of £60,000 per annum would pay for the annual and voluntary emigration of two thousand persons, and by the time 300,000 had left Britain, there would be a saving of £240,000.

There can be no question then, of the economy of such a grant, nor would there ever be any danger of a glut of labourers in the colony, if two thousand, or even twice two thousand labourers were sent every year: the

complaints of the want of them are very numerous and importunate; besides, the local government might incessantly be increasing the arrangements for the reception of free settlers, such as erecting a small house, and clearing ten or twelve acres of land upon every location in the districts intended to be settled; or by building a few huts on every spot marked out for a village at regular distances, say every tenth mile, on the high roads; and square tanks should also be dug at these distances as in India.

Good sense and prudence points out, that encouragement ought to be given to voluntary emigration; which encouragement should be in the shape of a *free passage* to the colony. "It cannot be an objection to emigration, to say, that the vacuum will soon be filled up. If the sphere of civilization be enlarged, and a body of unproductive labourers at home be established as consumers of our manufactures abroad, then the encouragement of emigration would be doing good, even though the vacuum should be speedily filled up."

It is with a nation as with a single family; the increase of children, although counted as a blessing in the language of Scripture, is a source of anxiety, perplexity, and expense, unless new lands can be divided among them as of old; and it is nothing new in the history

of the world, to find a great nation both illustrious in deeds and learning, and in a general sense thriving and multiplying, and yet thousands of its natives in want of employment and subsistence. Great Britain stands in this dilemma. There are in fact multitudes of our countrymen in a state of destitution, or at least gaining a bare livelihood; such being the case, the sooner means are devised to provide for their annual emigration, passage free, the better; for otherwise there will be an accumulation of discontent and wretchedness that must, apparently sooner or later, lead to some *home* calamity, in which every class of society will suffer. The increase of crime in consequence of the lenity of the laws and the want of employment, cannot be viewed without the secret question, of what will it end in?

It is a pity that something like an annual expedition is not organized by Government as a national affair, during the constant and protracted dearth of employment for the Irish poor; an expedition which might employ some of our useless frigates in the annual conveyance of voluntary Irish emigrants, and thus be the means of putting a stop to their swarming into England to the ruin and misery of the English labourers.

What would it cost the nation, if Govern-

ment were immediately to equip three frigates, victual them, and convey (passage free) one thousand free Irish families in one fleet, and set them down at or near Roebuck Bay on the N.W. coast of Australia, say on the Cloate's Island of my map, (which exhibited more abundant proofs of fertility than the country of Swan River); with tools, stores, and provisions sufficient for one twelvemonth, compared to the support of as many idle poor, year after year? —and even in addition to the expense of the expedition, if we were to store and victual the emigrants in their new colony for the first five years, what would the cost be, compared to their continual support at home, which, as their numbers increase, increases in amount?

Suppose one hundred towns were each to turn out fifty voluntary emigrating families; would it not lessen the population, afford more employment to the remaining numbers, and banish from the land much misery and discontent? for the poor only want employment with fair wages, to make them a happy and contented class. The promise of estates rent free, a free passage out, and assistance for the first twelvemonth, would induce thousands to embark for the colonies, and it would drain the United Kingdom of all who were in want of work, at the same time that the emigrants would then

only have to work on their own land and for their own families, instead of slaving for poor wages and ending their days in a workhouse.

ON STEAM PACKETS TO AUSTRALIA.

The voyage to that country might be wonderfully curtailed in time by the establishment of steam packets.

The small island of Amsterdam, in the Indian Ocean, possesses an excellent but small basin-like harbour, completely land locked. Were a depot of coals established thereon, it being directly in the track and just half way between King George III. Sound and the Cape of Good Hope, steam-packets might run regularly between those three places; and another steamer running between the Cape of Good Hope and Plymouth, would so metamorphose the duration of this long voyage, that it would soon be thought no more of, than proceeding to any part of Europe; and it might be safely performed in two months.

The island of St. Paul possesses no port or harbour of any kind, and therefore would not answer the purpose: but to the advantage of a harbour in the isle of Amsterdam, is united the fact that parties of seamen are frequently left on it for several months by the whalers, to catch seals; which proves the possibility of Europeans living and enjoying their health

there. One singularity on the isle is, that all the springs and rills of fresh water are warm ; yet this is an inconvenience which the sealers soon accustom themselves to.*

Were a number of wealthy merchants of London to form themselves into a company, and set up the three packets for the three several stages of the voyage, together with an agent at the Cape and another at King George's Sound, also a small settlement at Amsterdam island ; the number of passengers, from the increasing intercourse between England and Australia, would soon be so great, as to make it a profitable speculation ; and that too, without the least risk, if the vessels were covered by the insurance offices ; and without any great outlay of capital. The experiment is at least worth trial for a short time.

ON THE LENITY OF THE ENGLISH JUDGES.

The following observation I do not mean offensively ; viz. that the lenity of the judges, since the alteration of the criminal laws, seems to be extended with the most lavish hand to all classes of culprits. I never take up a provincial paper† without observing numerous daring and audacious robberies and burglaries ;

* *Vide* Appendix D.

† *Vide* The Leeds Intelligencer for the years 1827 and 1828.

in some cases of a truly diabolical nature, the perpetrators of which, the judges have frequently contented themselves by sentencing to imprisonment in England. Crimes for which the punishment of death was formerly awarded, and which the audacious criminals richly deserved; not that I am an advocate at all for the infliction of death for any crime whatever, but quite the contrary; but it seems as if the new criminal code had been the signal for diminishing the punishment for every species of crime, two or three only excepted, so few have been transported since the new code was made, compared to what there might have been; whereas the most rational interpretation of the amended laws, would seem to be, that *such cases as were formerly punished with death should now be only visited with transportation for life to work in leg irons*; and that those crimes for which transportation was formerly awarded, should continue to be visited with the same sentence of course;* as the altering of the criminal laws was evidently only intended to strike at the heaviest punishment, viz. to do away with the sanguinary part of the law, the infliction of death.

Such a misuse of mercy is full of fearful pre-

* Excepting the term of seven years, which the convicts laugh to scorn; none should be for less than ten years.

sentiments, and will assuredly fall heavy upon our own heads.* The judges must be well aware, that every one whom they so confine, and who are in a few months turned loose upon the public again, do not come out of the prison-school more virtuous or improved : the contrary is the fact ; and the want of employment is the excuse for the second and third offence : whereas if they had been sent across the seas to a " land of plenty, wanting men to enjoy it," there would have been no second and third offence.

I have seen a quaint remark of the colonists, of the following purport, " that as so few transports arrived in Australia compared to what there used to be, it was thought England was become all virtuous, and crime had disappeared ;" well may they think so when the fact is, we keep our audacious spirits within our own bosom ; loath to part with them we treasure them up in strong houses a few months, to give them time to invent new plans of robbery and improve upon the old, and then let them out to practice their new acquirements.

It is the merest weakness to award punishment according to the *value* or amount of the thing stolen, because we are sure that, be it

* In fact, the papers this year (1829) say, crime has increased to an alarming extent lately, verifying the above observation written in 1828.

ever so small a trifle, the burglar or robber would have got more if he could. The best rule would be, to sentence petty pilferers by day, and stealers in shops *before they are shut up for the night*, to the smallest punishment, say, confinement in England. Footpads and robbers on the highway, not guilty of violence, to transportation for life (if the sum robbed be ever so small it is no palliative, as the intention was the same). Also, coiners, forgers, incendiaries, stealers of every denomination, as well as burglars and those who break into a fellow creature's dwelling in the night time (no matter how trifling the thing stolen, as the intention was the same) transportation for life. And murderers and ruffians in cruelty, to work in leg-irons for life in Australia.

I have frequently groaned as I read the numerous sentences, totally incommensurate with the daring hardihood and audacity of the crimes; the criminals in some instances appearing to have shewn much unfeeling, brutal, and inhuman behaviour.

Mercy is a heavenly sentiment, but I wish our British judges did not possess so much of it: it would be better for the culprits, to sentence them all to transportation, and better for the public.

ON THE WANT OF WOMEN IN AUSTRALIA.

Two appeals have been made to the high authorities in England on behalf of the many thousand men in Australia, to whom the solace of female friendship is denied, and utterly unattainable in that country for want of women ; and I venture most humbly to make a third call upon the humane and compassionate consideration of Government, to this subject.

We have the experience of a medical man, a sensible writer, recorded in favour of sending women to that country, where, he says, the most abandoned young women, and even those whose health has previously suffered from a long course in vice, recover their health, make good housewives, and become the mothers of thriving families. There can be no cruelty, then, in transporting young women to a climate which agrees so well with them, a land where they are sure of finding husbands, and a life of more ease and comfort than they enjoyed, or ever can enjoy, in England. The cruelty consists in imprisoning them in jails and penitentiaries, and after a time casting them out upon the world again, without means of support, when they are driven once more to prostitution, misery, and a breach of the laws. On the other hand, the disproportion between the sexes in Australia, in 1824, was truly alarming, there

being then ten or twelve thousand males more than females, and that disproportion has been increasing since in an appalling manner, to the encouragement of the most flagrant wickedness, and broad-day scenes of the grossest immorality; and this in consequence of the scarcity of women. There are thousands of destitute females swarming in our streets * who would be glad to emigrate, was proper encouragement held out to them; for their desperate condition renders any alternative desirable, especially removal from the scenes of their misery. Would Government humanely authorize a free passage to be given to as many of these unfortunates as chose to go annually, funds would not be wanting from the humane and charitable, to provide them with clothes for the voyage; and an agent in London, or at Portsmouth, might give them their tickets of admission to the ships appointed for them. Female society would spread content through every village and on every farm in Australia; and the once lonely exile would soon feel attachments to a home of his own, a garden, a tree of his own rearing; a position in life which it was impossible ever to arrive at in England.

* The Metropolitan Female Asylum Report, for March, 1830, stated that there are above 50,000 who walk the streets of the metropolis for support?

ON A RELIGIOUS ESTABLISHMENT.

A Chaplain or Minister should be appointed to reside at every settlement in Australia, however small; nor should there ever be a colony or settlement formed any where in future, without one accompanying it, as an indispensable officer, equally so with a commandant or surgeon.*

They should receive their pay from Government, and the pay of all would be best regulated by length of service, all the elder being appointed, of course, to the most populous towns and important districts; they would thus rise in the establishment progressively, with the increase of their learning, their merits, and their capability of doing good. This plan would prevent very young men from stepping over the heads of their elders in years, and tend to preserve a proper respect from the public for the ministry. They should be allowed to rise in the Australian Church agreeable to the usual church promotion; first being Deacons, afterwards Priests in full orders, *i. e.* Chaplains, and eventually to the Bishopric.

If the light of nature and reason does not influence men to forsake a course of wickedness,

* The author has been converted from Heathenism to a belief in the Blessed Saviour, since his return from India. His advice is founded in experience.

and become good members of society, then it is the bounden duty of a Christian government to afford them the means of grace, with the light of religion; and, however few may be the congregation in a small settlement, the influence of their example may have a good effect; besides, for the goodness of a few, Providence may spare the whole. "Good men are the salt of the earth."

How can we expect prosperity to attend any colony or settlement when the settlers have forgotten the Sabbath, and have no more idea of God than the tribes of Indians whom nature has condemned to the misery of living in the constant fear of wanting food, and whose habits are murder, rape, and plunder, whenever the strong have an opportunity of overpowering the weak. "Nothing that they take in hand shall prosper, saith the Lord." A Government that owns Christ for their God, is responsible for the souls of all under their authority. A minister and teacher is of more absolute importance to every small settlement than any other officer. He would open the eyes of the people to that light which teaches wisdom and directs in the right way, securing prosperity to them by force, not the force of the Inquisition, but the force of truth and Christian love.

Australia should have a Grand Pastor, with the title of Bishop; twenty-four senior

ministers or chaplains, for the supply of every present existing settlement, town, or township; and an indefinite number of junior ministers or deacons, at a college at Wellington Valley, preparing themselves by study, to be ready to fill up vacant chaplaincies by rotation, as well as to accompany expeditions for the formation of new settlements. The Bishop should receive an income equal to the pay of a Lieutenant-Colonel, senior Chaplains a salary equal to the pay of Captains in the army, and junior Chaplains Lieutenants' pay.

ON HISTORICAL AND PHILOSOPHICAL RECORDS.

It would greatly benefit science, and tend to the increase of knowledge and amusement, were journals ordered to be kept at every new settlement, by three principal public officers, the commandant, or second in command, the chaplain, and the medical officer; either of whom might make researches into natural history, and keep a diary thereof, as well as an historical journal of occurrences in their own department, and falling under their personal cognizance. These journals should be forwarded to the Supreme Government, at Sydney, every month, or as often as opportunities offered for their conveyance, duplicates having first been made of them. A competent officer at Sydney should hold an appointment similar to that of historio-

grapher, who should arrange the materials of all the journals of the several settlements, and compile one general journal of history, literature, medicine, religion, and natural history of Australia, which should be printed and published at Sydney once a year, for the benefit of the whole empire. The value of such a work now, but more especially at a future period, can scarcely be sufficiently appreciated. At present the contributions to the literary and philosophical society at Sydney are few, straggling, and meagre. New settlements are formed, no one knows how, when, or scarcely where; their birth, rise, and progress are consigned to oblivion: thousands of interesting facts in natural history, meteorological and physical anecdotes, have passed by unheeded, and will never be known: and even the difficulties and dangers are not on record for the guidance or benefit of other settlements to be formed.

It is still not too late for a liberal government to appoint historians and naturalists, and to order journals to be kept at all the different settlements. Every officer, in an expedition of discovery round the world, even if it consists of two or three ships, is obliged to keep a journal, though there should be twenty journals in one ship, all recording the same occurrence; but in the great Australian "fleet" of settlements, not one is obliged either to keep a

journal, or deliver it up to Government for publication when kept. "They manage these matters better in France."

ON THE INTRODUCTION OF ELEPHANTS AND
CAMELS INTO AUSTRALIA.

Some years ago the experiment of introducing camels into our West India islands was tried, but attended with what was to be expected, a complete failure. That quarter of the globe is the reverse of the Deserts of Africa and Arabia in almost every thing but the heat. With how much more reason might elephants have been conveyed to the West Indies, the climate, soil, and productions so nearly resembling those of the island of Ceylon, the greatest nursery for those animals in the world.

Australia is happily blessed with a variety of climates and soils, and is as conveniently situated for receiving elephants from Siam, Bengal, or Ceylon, as it is for camels from Bengal, Persia, or Arabia. Both elephants and camels might be imported into Port Raffles with little inconvenience or risk; a small ship would with ease transport twelve young elephants in its hold. A friend of mine, in whose veracity I could place the greatest reliance, informed me that he saw thirteen elephants turned out of some small native vessels, at Cuddalore, on the Coromandel coast, into the sea, in consequence

of the vessels not being able to get close to the beach ; and the water was so deep, that nothing but the extremities of their trunks could be seen above its surface, and yet they all found their way deliberately to the shore, safe and well. The bottom must have been a hard firm sand, otherwise they would have sunk and been lost ; and they must have been directed to the land by the smell, for it was not possible for them to see it in such deep water.

Struys, the ancient Dutch traveller, mentions the trade in elephants at Siam ; the ship in which he sailed, having taken in eight of these animals, and conveyed them from that country to Batavia, in the year 1650.

It was at first my intention to have included elephants and camels in the foregoing plan of an expedition, and there can be no doubt but that they would both be of the greatest use in such parts of the country as is adapted to each of them respectively ; but it would take a considerable space of time to import them into Australia, which would occasion a delay that might eventually lose us the honour of being the first discoverers of the interior. I thought, therefore, that it was better to reckon on the cattle of that country alone ; but as these inestimable animals would be of incalculable use there, totally unconnected with the question of

expeditions, I shall here annex an enlarged description of their natural history, with instructions for their food and management in Australia, which may prove of use to those in that country who are not in possession of books on the subject.

The elephant is the first which claims the attention of the Australians. Australia abounds in forests, thick woods, and rich valleys; such as these are the haunts of this animal. On the east side of the city of Timbuctoo, in Africa, there is a large forest of fine trees, in which are a great number of elephants; the timber there is very large. The woods of Siam and India, and the mountains of Ceylon covered with eternal forests, are all inhabited by herds of them. Their natural food, in the wild state, is the small boughs of trees, to which they help themselves, reaching up their trunks, and twisting or snapping them off, feeding as they walk leisurely through the wood, of which I have been a witness more than once in the forests in India. They will also eat grass, and are very fond of the seeds of the bamboo bushes, as also sugar canes, paddy, &c., and when domesticated, they will eat hay, oats, barley, rice, bread, fruit, &c. An elephant, when marching where there are neither trees nor other forage, is allowed ten seers of rice or

gram per day, or seven and a half maunds in thirty days ; according to which,

	MAUNDS.
2 elephants, marching thirty days, would require	15
30 bullocks would carry that, and their own food, for the same period	- - - - 45
Total	60

An elephant carries an equal load to two camels or eight bullocks ; and will perform more work than perhaps six horses in a warm climate, for which they are peculiarly formed ; but they require a great quantity of food and much care, with which they will live to a great age, some³ having been known] to be 120 or 130 years old. It is the most gentle and most obedient of animals, remarkable for gratitude and tenderness, its sagacity and recollection is such, that it may be trained to any particular use, and it soon learns to comprehend signs, and to distinguish words of command.

When employed in drawing state coaches, heavy artillery, or immense timber, they draw steadily and never turn restive unless insulted with improper chastisement. I have seen much of them in camp, and when marching, and have been equally amused and amazed at their performances, whether of strength or sagacity, the latter quality appearing more like human intelligence. They are extremely useful in dragging or carrying heavy weights over mountains, as well as in fording rivers and passing through

marshy and boggy countries, in which they sagaciously avoid the quicksands and dangerous parts.

Their height varies from seven to twelve feet: the female one at Exeter Change Menagerie in London was nine feet high, had been bred at Calcutta, and brought to England in 1796. It weighed two tons five hundred pounds. Its daily allowance was one truss of hay, one truss of straw, a bushel of barley meal and bran made into a mash, about thirty pounds of potatoes, and six pails of water.

Their food on board ship in India, would be palm leaves, sugar cane, rice and gram, hay, fruit, and plenty of water; but the merchant or sea captain would best know what to lay in for the voyage.

When arrived in Australia they should be kept in stables at night; and in the winter, well and warmly clothed with a large cloth of a stout texture, and a tarpaulin over it fastened on with a girth round the body; and they should sometimes be treated with a meal of cinnamon to warm their insides.

Men of capital who could afford to keep an elephant would clear more land of trees in a month, with a few men to cut them down, than probably a hundred convicts could in double that time without the assistance of that animal. Elephants might also be employed to

drag fallen trees out of rivers wherever the navigation or current was impeded by them, a task which it would be vain to set men to do : and in the cutting of passes, formation of roads, and blowing up of rocks, they might be made to drag trees and masses of stone out of the way, which would consume a deal of time in splitting. When travelling, in case of arriving at any flooded places or rapid streams, impassable from their depth and strength of current, an elephant would be of incalculable use ; it might be sent into the inundated land, and the rider or Mohaut should be directed to ride it across in different directions ; its instinct and sagacity is so wonderful that perfect reliance may be placed in the animal, which would search and find out the safest places to ford or pass through the water, and where it was too deep for any other animals, it would carry over their loads, and they might swim across bare backed.

Elephants should never be urged to exert themselves beyond their strength, which their Mohaut may soon be aware of by their refusing to work, otherwise they will get enraged, and run at any body or thing in their way. I once saw a young elephant get into a passion with the impatience of his master ; the animal had only been caught nine months, and was allowed one or two seers of rice per day ; which, though so

small an allowance, is sufficient to attach them to servitude, as they never afterwards attempt to escape when loose. He was under a course of instructions, and had laid down once or twice when bid, without much opposition ; but refusing to do it again, his master chid him in a severe tone of voice, which completed his irritation ; and he immediately ran screaming with rage at the bungalow close by, making every body take to their heels, except his master, whom we feared he would injure ; but he did no mischief, and soon allowed himself to be coaxed into a good temper again. This animal was usually fastened by a single long chain to a stake driven into the ground.

I should think an elephant might very well subsist in Australia on boughs of trees, and an allowance of a pint of maize per day ; as the latter grain is fully equal in strength and nourishment to double its quantity of rice.

In the summer season he should be made to lie down in a running stream where the bottom is a smooth firm sand, sometimes when the weather is very hot and sultry ; and his keeper should wash and scrub him all over with a rough flat stone of as large a size and weight as his hand could well grasp, the animal first lying on one side, and then turning on the other ; the act of turning his unwieldy carcase is accom-

panied with some little grumbling, otherwise the operation seems to please the animal, and it cleans and invigorates him.

I know not how far it would answer the ends of the Government at Sydney, if they were to turn a few elephants loose in the thick woods in the vicinity of Moreton Bay as a breeding farm ; where they would do very well provided the Indians did not spear them, but I think the experiment is worth trial. A very few years would settle the question, and it would be done at a trifling expense.

The Camel next merits the attention of the Australians.

Of all the animals that man has subjugated, camels are the most abject slaves : with incredible patience they traverse the burning sands of Africa and Arabia, carrying burdens of amazing weight. In one day the Arabs can perform a journey of fifty leagues, or 150 miles into the desert, which cuts off every approach from their enemies : all the armies in the world would perish in pursuit of a troop of Arabs : they travel day and night almost without stopping, eating or drinking ; and in this manner will perform a journey of nine hundred miles in eight days.

Volney in describing the camel says, “ Nature has been sparing of her materials in the whole of his formation. She has given him a small

head without ears, at the end of a long neck without flesh ; she has taken from his legs and thighs every muscle not immediately requisite for motion, and bestowed on his withered body only the vessels and tendons necessary to connect its frame together. She has furnished him with a strong jaw, that he may grind the hardest aliments ; but lest he should consume too much, she has contracted his stomachs, and obliged him to chew the cud ; she has lined his foot with a lump of flesh, which, sliding in the mud, and being no way adapted for climbing, fits him only for a dry sandy soil ; and, destitute of every sort of defence against his enemies, he is evidently destined for slavery."

The camel and dromedary are not two distinct species, but are only two varieties of the same species ; the former having two protuberances upon its back, the latter one. The various qualities of the horse, the cow, and the sheep, seem united in the camel ; the flesh, when young, is excellent food ; the milk is rich and nutritious ; the hair is superior to that of other quadrupeds for various manufactures ; and when it falls off every year it is gathered up by the owner, and wove into shawls, coverings, tents, carpets, &c.

" A few days after the birth of a camel his proprietor folds his limbs under his belly, forces him to remain on the ground, and in this situ-

ation loads him with a tolerable weight, which is never removed but for a greater. Instead of feeding at pleasure, and drinking when thirsty, his meals are regulated, and he is compelled gradually to perform long journies, and at the same time to submit to a diminution of food. When he has acquired some strength, he is trained to the course, and his emulation is excited by the example of horses, which in time renders him fleet and robust." The pace of the camel is a high trot, but I have seen them canter or rather gallop. Camel saddles are always open above, that it may not hurt the bunch of the animal, *i. e.* it should be hollowed in the middle, and have a piece of wood placed upright at each bow ; but a dromedary's saddle is made like a horse's, and covers the bunch ; for this reason Niebuhr preferred riding a dromedary.

Denon says, that when he was first mounted on a camel he was greatly alarmed lest the swinging motion would have thrown him over its head ; he, however, was soon agreeably undeceived, for, on being once fixed in the saddle, he found that he had only to give way to the motion of the animal, and then it was impossible to be more pleasantly seated for a long journey, especially as no attention was requisite to guide it, except when making it deviate from its proper direction.

The camel, which is so deliberate in all its actions, as soon as the rider leans on its saddle, preparatory to mounting, rises very briskly, first on its hind legs, and then on its fore legs, thus throwing the rider first forward and then backward, and it is not till the next motion that he finds himself firm in his seat.

Camel drivers have each a stick, which should be used very sparingly; and those who ride use a whip, made of a long strap of leather, and urge them on with a clicking of the tongue, the same as we use to horses.

When heavily laden, they are capable of crossing the deepest and most rapid rivers, and it is very rarely that any accident happens to themselves or their riders in the attempt.

If overburdened they will repeatedly strike at their rider with their heads, and utter the most lamentable cries; for, notwithstanding their natural mildness and docility, they are extremely sensible of injustice and ill treatment, and will retain the remembrance of an injury till they can gratify their revenge. Sonnini says, "I have sometimes seen them weary of the impatience of their riders, stop short, turn round their long necks to bite them, and utter cries of rage. In this case the man must be careful not to alight, he must also refrain from striking the animal any more: nothing can be done but to have patience, and appease

him by patting him with the hand, when he will resume his way and his pace of himself.

Volney says of the burden camel, " he only goes a foot pace, and measures his steps so slowly, that he hardly advances two miles an hour ; but the slender camel, called " Hedjina," on the contrary, trots at pleasure, and from the length of his paces, easily goes six miles an hour : the great advantage of this animal is to be able to continue this pace thirty or forty hours successively, almost without rest or eating and drinking. He is made use of by couriers for long journeys, which require expedition, and if he has once got the start by four hours, the swiftest Arabian mare never can overtake him ; but one must be accustomed to his pace, otherwise his jolting motion soon flays the skin, and disables the best rider in spite of cushions, with which they stuff the saddle. All that we have heard of the swiftness of the dromedary, may be applied to this animal ; he has, however, only one bunch, nor do I recollect, out of five-and-twenty or thirty thousand camels I may have seen in Syria and Egypt, ever to have observed a single animal with two."

" A camel load in Syria is 750 pounds weight ; his food is straw, brambles, stalks of wormwood, pounded dates, beans, barley, &c. With a single pound of food and as much water

per day, he will travel for weeks together." The customary camel-load in India is equal in weight to four bullock loads, or 600 pounds.

Lempriere says, in describing the caravan from Morocco to Timbuctoo, "It is necessary to pay attention to what camels may be wanted for the purposes of carrying water through the deserts, as in some parts they travel four, and in others nine days, without meeting with a drop of water. In the inner coats of the camel's stomach there are a number of little cells, in which they retain a large proportion of water for a length of time, which they have a method of regurgitating when thirsty: the construction of their stomachs also admits of a large portion of food to be taken in at one time, which they ruminate when their appetite calls for a supply of nourishment. Their owners, therefore, have only to give them plenty of barley and water at the entrance of the deserts, and that proves sufficient to last them till a fresh supply can be conveniently procured. One camel will carry three persons and their furniture."

The camel has four stomachs. At the top of the second stomach there are several square holes, which are the orifices of about twenty cavities or bags, placed between the two membranes which compose the substance of this stomach. These bags are so many reservoirs,

which they fill, over and above what satisfies their present thirst, and serves for supplying them with water in long journeys.

The cartilaginous texture of its mouth enables it to browse and feed on the hard, dry, and prickly herbs and shrubs of parched sandy plains, particularly such as have a bitter taste; but in some parts of Arabia it lives chiefly on herbs of the gourd species, pumpkins, and melons, which abound in the driest parts of the country, although it is content with stunted and withered roots.

Camels can discover water by their scent, at the distance of half a league, and, after a long abstinence, will proceed direct towards it, long before their drivers perceive where it lies; and they will travel many days fed only with a few dates, or some small balls of barley meal. Denon says, that in Egypt the camels of the caravan had nothing in the day but a single feed of barley, which they chewed for the remainder of the day's journey, either walking or resting.

The Arabs are sometimes obliged to kill camels, when much distressed for water, for what is contained in the second stomach of that animal, which is sweet and wholesome.

They kneel down, or rather lie down, to be loaded, and rise immediately that they find the load equal to their strength, and will not permit any more to be put upon them. They

usually travel at the rate of thirty or thirty-six miles in fifteen or eighteen hours a day.

Camels are in danger of splitting up when travelling in wet weather, particularly in a greasy soil, or in going up or down a hill. In our march from Bellary to Goa, in the wet season, this was the only fear our officers, who possessed camels, had; for as to the heavy rains, and other inconveniences of encamping in boggy and wet grounds, they bore it exceedingly well, and continued healthy and serviceable; they also descended the steep pass down the Ghauts with safety, an almost unexpected piece of good fortune. The accident called *splitting up*, is occasioned by their long hinder legs sliding asunder in slippery and greasy roads, when, in consequence of the heavy loads on their backs, they cannot recover themselves: they have so little flesh on their hinder parts that their thighs are torn asunder, and they die immediately. I should think that this accident might be prevented, by buckling on a leather strap to their thighs, of sufficient length not to hinder their walking, when marching in a monsoon. The Africans, when travelling to the foot of the mountains, in the gold dust district, clothe the feet of their camels in boots, to prevent them from being bitten by snakes in the night, should they accidentally tread upon one.

When grazing in a rich and fertile pasture, these animals eat, in less than an hour, as much as serves them to ruminate the whole night and nourish them during the next day; but this food is not necessary for them, as they appear to prefer thistles, nettles, broom, acacia, and other prickly plants, to the softest herbage.

Some attempts were formerly made, but without success, to introduce camels into the islands of Jamaica and Barbadoes: the people were unacquainted with their habits and manner of feeding, and this, together with an insect producing ulcers in their soft feet, soon rendered them totally unfit for service.

Both the climate and country of Australia appears to be much better adapted to their habits than any West India island. The former being dry and sandy, the latter humid and mountainous.

If ever they should be introduced into Australia, they should be well clothed at night, and during the winter season put into a stable; for although they are very hardy, they cannot withstand a severe frost. A terrible accident happened, from a severe frost, in the north of Africa, some considerable time back, when nearly a whole *caffila* (a junction of many caravans) of thirty thousand camels, perished, occasioning the most dreadful miseries to the surviving merchants and pilgrims.

Were a sufficient number of camels imported into Port Raffles, an exploring party could, with very little risk, cross over the continent to King George the Third's Sound. Coats of mail, long barrelled fowling pieces, (such as will carry a long shot), provisions for themselves, and skins of water for ninety days, is all that would be required ; supposing that the whole distance was nothing else but one vast desert, open like the ocean, and not intersected by mountains, woods, or rivers. Travelling at the slowest camel rate, of thirty miles in fifteen hours, out of the twenty-four, daily, there can be no doubt but that it could be effected ; and the animals would discover fertile spots, and water at intervals, in this desert as well as in all other deserts, by their extraordinary faculty of smelling it at a great distance ; and the noises they make would soon intimate the discovery to their masters, who would naturally allow them to choose their own road to it.

But should the progress of the expedition be interrupted by impassable mountains, woods, or rivers, they could but return to the place from whence they set out, and no great damage would be the consequence ; though they might have the good fortune to discover a navigable sheet of water or river in the interior, communicating with the lakes in the vicinity of the Macquarie and Lachlan. As to the quantity of

provisions for the camels, a few sacks of beans and barley would be amply sufficient; as the barren lands of Australia are known to be productive of the very kinds of trees and bushes that those animals prefer for food, and it is probable the same vegetable productions will be found to pervade every similar country throughout the interior.

I should like to see the experiment tried by some men of capital, importing a few camels into Eastern Australia, and turning them loose in a large enclosed barren track of land, at least where nothing but coarse grass, acacia bushes, and other thorny plants grew, and let them take their chance. I should think they would breed, and, provided they were brought up to a warm shed every evening, during the cold season, would, in course of time, so multiply as to stock the country, and turn out a very profitable speculation. Their greatest use would be in the conveyance of bales of wool from the interior to the navigation on the Hawkesbury.

Plate 3 represents bamboo and rattan sedan chairs on camels.

ON HOUSES OF AGENCY FOR AUSTRALIAN PUBLICATIONS.

An article inserted in the Asiatic Journal, vol. 25. page 28, suggested several improve-

ments in Australia, concludes with regretting "the non-publication of journals of the results of expeditions, and exploring parties, such as the journals of (Allan Cunningham's, and Captain Sturt's might be included), Mr. Howell's excursion to Western Port, in 1824, and of Messrs. Howell and Hume's discoveries in the parallels of 36° and 37° S; and recommends that the journals of every future traveller in that division of the globe be published at length." The whole of the above article is worth the consideration of our Australian friends, and I here beg to draw their attention to another consideration, namely, that there is but one coffee house in London where the New South Wales, and Van Dieman's newspapers are taken in, (the New England Coffee house, I believe,) which is most extraordinary at this period of increasing intercourse with the above mentioned countries; and such is the difficulty of obtaining those newspapers, in England, that on enquiring at the above coffee house, a gentleman was lately informed that even the old papers would not be disposed of for any money, and that numbers of people had made application there for them, and had been constantly refused. I leave it to the consideration of our friends at Sydney, and Hobart Town, whether it would not be worth while to establish three

or four coffee houses, in London, for the reception of their newspapers, and two or more booksellers as agents, for the reception and sale of works, printed in that distant part of the globe, without which, I do not see how it is possible for any one here, not having friends in Australia, to procure those works; particularly books of travels, maps of newly discovered portions of the interior, and transactions of the literary and philosophical society of New South Wales; all of which must become more and more interesting, in proportion as our researches extend into the interior. Besides, the way to encourage emigration from the population in England, is certainly not by keeping them in utter ignorance of the new settlements, and preventing them from having access to Colonial Newspapers.

On the same plan, a coffee house and agency bookseller, should be established at Edinburgh, Dublin, Cork, Glasgow, Leeds and Liverpool; those cities and towns being the centre or rather head quarters of the most populous portions of the British dominions in Europe. The extreme scarcity of Australian newspapers keeps the public in the dark as to what is going forward in that young colony, and is a crying evil.

ON THE MILITARY AND NAVAL ESTABLISH-
MENTS OF AUSTRALIA.

Mr. Wentworth has made some very sensible remarks on this subject in his "Statistical account of Australasia," 3d Edition, vol. 1, page 353, and in the last article quoted from the *Asiatic Journal*, is a recommendation of a plan of emigration by enlisting able-bodied men who have families, from the West Riding of Yorkshire, particularly in the overgrown extensive parish of Halifax, which swarms with poor and teems with children like the productions of a hot-bed; the article says, "these men might be formed into another *New South Wales regiment*,* and sent out with all their families." The execution of this plan would be accomplishing three objects at the same time; strengthening the colony with troops, aiding the cause of emigration, and relieving an overburdened parish.

After having served their term of service, which is no more than enough to make them good soldiers, and available to the local government in any case of sudden danger, they should be located in small villages at convenient distances on the principal great roads; and fifty acres of land given to each family, with tools, seeds and rations for one year, without fee, rent,

* Let us call it the "Australian Regiment."

or any future payment whatever, to prey on their minds like a nightmare. This would be a continual inducement to others to enlist in the regiment: and as to the different degrees of industry evinced by them on their farms afterwards, producing different results, some growing rich and accumulating land, while others became poorer, and sold their locations; it would be no business of ours, nor could they blame government for their want of success or folly. There must be, and there will be, rich and poor in every country and climate.

Mr. Wentworth recommends two sloops of war, one for the station of Port Jackson, and the other at the Derwent, which would frustrate the numerous conspiracies the convicts are constantly forming, to run away with the colonial craft; but if what we have recently heard respecting the atrocious attacks of Buenos Ayres and Brazilian privateers and pirates, on English ships bound from India to England, be true, we may soon expect these unprincipled villians will extend their excursions to the Australian colonies, and not only rummage the shipping, but sack the new settlements around the coasts of Australasia, perpetrating those nameless and diabolical barbarities on the inhabitants; of which a noble Lord in Parliament lately spoke, as having been inflicted upon English subjects on board the ship *Morning*

Star. Thus in some measure displaying the singularly unexpected event of the South Americans retaliating the excesses committed on them one hundred and forty years ago by the English Bucaneers. That such an event may ultimately take place is not at all improbable, especially if we recollect that these daring pirates a short time ago actually made their appearance in the European seas, and attacked ships on the coast of Spain, as it were defying the fleets of the mother country.

To guard against all outward attacks on our colonies in the Southern hemisphere during the *delusive* appearance of peace, there should be a heavy ship of the line constantly moored in the harbour of Port Jackson, with two light fast-sailing frigates attached to the command; one or other of which should be stationed in the waters of the Derwent, and be relieved by the other at regular intervals. This force would be more useful than two sloops of war in many respects; but principally from its show of power, it would deter, by anticipation, all outward hostility, and serve to keep down that spirit of insubordination among seamen in private merchant ships, which gains ground and is productive of so many inconveniences and dangers to the maritime interests of the empire.

Looking at the great extent of coast now occupied by our settlers, and the distance that

the settlements are situated from each other, together with the important consideration of the very numerous body of convicts in that country, amounting to thirty five thousand not emancipated, over whom the small military force now there, would not avail much, were they disposed to rise *en masse*, rebel against government, drive out the honest part of the community, (which only reckons its numbers at 28,000 of all classes including emancipists), and usurp their property; every person who reflects on this important question must allow, that the military establishment should consist of three of His Majesty's regular regiments of foot, two Australian regiments, half a battalion of pioneers, say 300 men, and a troop of cavalry, together with the usual proportion of artillerymen and material. This force should be formed into two brigades. The first, consisting of two King's regiments, and one Australian regiment, should be cantoned at Paramatta on the same plan as our cantonments in India, from whence detachments should be sent to every settlement and be relieved by other detachments at stated periods, so that no settlement should be without a guard of two or at least one company of soldiers, according to its importance; and both the King's regiments should never be broken into detachments at the same time, but care should be taken that one of them should always be complete at head quarters ready for any

emergency. The regiment should not remain broken in detachments longer than a twelve-month, but the posts should be relieved by the other at the end of that period. No more convicts should be kept at Sydney than was absolutely required for the public works in progress there; the rest should be removed to Paramatta or further up the country, where they might be kept with greater security, and be out of the way of temptation to desert, as at a seaport; and that vast pile of building, the convict barracks at Sydney, might be either turned to some other use (that of lodging poor free passengers at the moment of their arrival, as is proposed at page 9) or sold by auction, as it stands, to be pulled down and cleared away by the purchasers. The Port of Sydney would then only require a wing instead of a whole regiment for its garrison, and the morals of the soldiers would not be corrupted by the vicinity of scenes of debauchery so frequent at a seaport. The second brigade should be stationed on the Derwent, and consist of one King's regiment, and one Australian regiment, from whence similar detachments should be furnished to settlements along the coast of Tasmania; but here, a wing instead of the whole regiment should be broken into detachments. *

* I do not pretend that the above forces are absolutely necessary, but they would give the free settlers a feeling of

A squadron or at least a troop of cavalry should be stationed at Bathurst; from which, commissioned, non commissioned officers, and troopers, might be drafted at any time for the formation and officering of other corps of cavalry: but without a troop to begin with, this would be impossible, let the case be ever so urgent.

Extension of settlements without an adequate increase of disposable force both naval and military, so far from conferring stability on the rising state, not only exposes it to the wanton attacks of both outward and domestic enemies, but seems to invite and provoke such attacks; when, if there had been some little ostentatious display of military defence, no ideas of the kind would ever have been hatched in the minds of the assailants.

ON THE HAWKESBURY CANAL, &c.

There is an admirable plan for carrying off the devastating floods of the Hawkesbury, in Baron Field's "Geographical Memoirs of New South Wales," page 456; and in the Asiatic Journal, vol. 25, page 28, is another plan for the same object, but the first is the preferable one, as it proposes a junction canal of about twenty

greater security; and the *convicts would be kept in greater subordination.*

miles in length, having for its ultimate object the immediate benefit of the Transalpine trade, and consequent prosperity of the agriculture and commerce of the colony, which the second plan professes to have nothing to do with, merely proposing a tunnel to be carried through a hill from the Hawkesbury valley, whereby the rising waters might run off.

With respect to the canal, it is a work ardently to be wished for, and on every account highly deserving the attention of the Local Government; and when it is recollected what great objects may be attained by comparatively small means, merely by *Perseverance* and *Time*, it is to be hoped that the canal will be begun. "A continual dropping of water will wear away a great stone," and if only ten convicts were set to work upon it, with a sergeant appointed as their overseer, we might look forward with certainty to its accomplishment, in course of time; and though it should occupy a number of years, in this slow mode of procedure, yet, so as it be done at all, the reckoning a few years more or less, is not deserving of the least consideration. It would cost the public nothing: It would cost individuals nothing:—But the country at large would be great gainers.

ON THE HOSTILITY OF THE INDIANS IN
TASMANIA.

I have heard a proposition broached of the following purport: viz. that as the Indians in the Island of Tasmania have ever been hostile to the settlers, from the very first planting of the colony on the Derwent, and as there is not the most distant hope of a reconciliation ever being brought about, but on the contrary, they still continue to harass the settlers, at the same time that they themselves do evidently lead the most wretched kind of lives, driven as they now are, to their hiding places in the hills; that the best thing that could be done for both parties, would be, to transmit the Indians to some of the numerous uninhabited islands on the south coast of Australia, and elsewhere, or to parts of the continental shores, where there are no other tribes, and for the future not to allow any other than a white population to inhabit Tasmania, which would then be a second England, and of course the bulwark of all the British settlements, in the Southern hemisphere.

On consideration of this subject, there does not appear any objection on the score of humanity, although it may seem to be the contrary at first sight. The Indians are undoubtedly the most miserable wretches under the sun; and they are continually diminishing, and

perhaps do not now exceed six hundred souls, (although it is difficult to make any computation of their numbers); yet as they obstinately persist in hostility, and refuse all intercourse with the whites, their latitude for procuring food by hunting and fishing, becomes more and more circumscribed every year, exactly in the same ratio as the farms are extended over the island; and in less than the period of one generation they will not have a single untenanted spot left. Starve they cannot, therefore it will always be a war of extermination. Something must be done, and perhaps the foregoing plan is as humane as any. The only question is the manner of its accomplishment.

Another plan for diminishing the population, and ultimately amalgamating it with the white, is as follows: it is well known that these Indians are not over affectionate to their female children, and, in fact, they have been frequently known to destroy them, as not being worth the care of rearing, while, on the contrary, they preserve their males with the utmost solicitude. It might be intimated to the different tribes in Van Diemen's Land, that the Governor was agreeable to establish a traffic with them, for the purchase of all their female children, or as many as they might choose to sell from time to time. The Indians would seize the occasion, as a fortunate opportunity

of getting rid of incumbrances, and procuring in exchange more desirable articles, food, &c. Matrons might be appointed to receive the children, who should be immediately shipped off to Port Jackson, and be there placed in a foundling asylum until marriageable, when they might be united to the convicts in that colony. This would operate as an imperceptible but certain abolition of the black species in this island (a long-winded job, perhaps, but not the less sure), and secure two desiderata, viz. a more friendly intercourse with the present tribes, and consequent security, and the production hereafter of a solely white population.

CHAPTER XIII.

MISCELLANEOUS.

CIVILIZING THE INDIANS SHOULD BEGIN WITH THEIR
CHILDREN.

It is the observation of some writers, that the system pursued in Australia for educating the children of the Indians, is not attended with success. The black children will never do any good there, until some other plan is commenced, for as soon as they grow up they take to the woods again, and become as wild as ever.

The plan I would recommend to be pursued is this; that a few children of both sexes, of the age of five years, be purchased from their parents and sent to Madras, where they should be put to school, with others of their own colour, but of very different habits and manners: the effect an example of this kind would have upon the little savages would be very different from that caused by associating with white children, whose dress and manners

they never can like ; and the constant heat of that climate would, after a ten years' schooling, make that of their own country feel so cool, that there would be no more " throwing away of clothes and running naked to the woods."

Supposing they returned to Port Jackson at the age of fifteen or sixteen, they would bring away with them impressions of the comfortable and cheap cottages of the Hindoos, and they might be married to each other at Madras, previous to their departure, and be made schoolmasters and mistresses, for the instruction of other black children, who would take ideas from them much quicker than from a white man or woman. We all know that impressions received in childhood are not soon effaced, and in Australia there wants an example of this nature to begin with.

The only expence of this plan would be that of the passage and education of the first pupils ; as when a sufficient number had been educated at Madras to fill the situations of schoolmasters and mistresses, there need be no more sent.

ON REWARDS TO SETTLERS OF ALL CLASSES.

I must now say a few words relative to grants of land, viz. that, agreeable to existing regulations respecting locations in Australia, it appears that the settlers are subject to a kind of penalty if they do not cultivate a certain portion

of land, or lay out a certain sum of money upon the estate, besides which, there is an annual fee or acknowledgment to be paid, in default of which there is eventually a forfeiture of the location. I look upon these stipulations as a kind of threatened punishment for idleness, which is perhaps very just and necessary, and what I am not going to find fault with; but I think that, as well as punishments for the idle, there should be rewards for the industrious.

What I now beg to suggest for the consideration of Government is this, viz. that encouragement, in the shape of rewards, to settlers of all ranks and classes, to cultivate their locations, would be as beneficial to the State and to themselves as the penalty of forfeiture. I would recommend that, for every fifty acres on a location brought into a proper state of cultivation, ten more acres should be granted to the owner thereof, without fee for ever. It could be no objection to say, that the estates of private individuals would become too gigantic, as the more land in cultivation the more labourers would be required, and the greater would be the supply of every kind of subsistence; thus increasing the population by the very act of increasing the size of the estates.

A settler, who possesses talents necessary for conducting an extensive agricultural concern, would, with this kind of encouragement, soon

be the owner of a populous village on his estate, and there are, doubtless, many such settlers now in the colony who want some stimulus of this sort.

I would recommend this system of rewards to be continued for the space of twenty-five years, by which time the colony would be populous enough to defend itself, and save a vast expense to the nation.

The neglect afterwards of continuing the cultivation of the same number of acres which gained them the gratuity, should, of course, be followed by a forfeiture of the gratuity land; and although there might be many defaulters in this way, yet there cannot be a shadow of a doubt but that the plan would induce numbers of settlers to import their relatives into the colony, with the certainty of being able to provide for them, and thus, in a few years, increase the population by many thousands.

“The Friend of Australia” may perhaps be expected to contain something on the topic of *Free Representation* and *Trial by Jury*; but as this question has been settled by the very recent proceedings in Parliament, the result of which is Sir James Mackintosh’s *New South Wales Bill*, it would be superfluous to say any thing on the subject: at the same time I will candidly acknowledge that a Representative Government at present would be injurious instead

of beneficial to that young colony, which requires no more than a Paternal Governor to ensure its prosperity; and I am happy to see, by the public prints, that the present Governor General of Australia is every thing that the colonists could wish for in a chief:* long may he hold the reins of government, and may his services be rewarded like those of his predecessors, with a noble estate in Australia.

THE DATE TREE RECOMMENDED.

Among the list of exotics introduced into Australia, I have never, to the best of my recollection, seen the date tree mentioned in any work on that country, which is somewhat extraordinary, when it is considered how admirably the climate would suit it, and what a delicious fruit it is, either dried or preserved.

I believe it is a tree that will thrive in any soil, from the richest to the poorest, or most rocky and sandy. The rocky hills, not far from Shiraz, in Persia, are said to be abundantly clothed with the finest date trees, and they are also cultivated there in orchards. The Persians say there are male and female trees,

* Yet I think that Governor Darling's last regulation respecting grants of land, will prevent many poor settlers from getting their poor relatives to go out to them, and thus be the means of damping the emigration of the poor.

and that the female date will not bear any fruit if planted alone, so that they are always planted by pairs, and they even pretend that they naturally grow so. To make a tree bear good fruit, it is said they take a branch of the male and graft it on the young female tree, otherwise the fruit would be bitter.

The date tree is produced in many parts of Asia, Africa, and, I believe also, in the south of Europe, particularly at Rome and Naples, but it flourishes more abundantly around Mount Sinai, and other places in Arabia; also at Ougein or Oojain, in India, where there are date orchards.

This tree, and the nimboo or lime (a species of green lemon well known in India), are both worthy of adoption in Australia; and an Arabian gardener might be hired to attend a date orchard for the first two or three years.

ON THE FOOD OF THE INDIANS.

The next thing deserving of serious consideration in Australia is the large game, the destruction of which drives the Indians to despair, and provokes them to the retaliatory measure of plundering. Killing kangaroos and emus in the colony should be discountenanced, or the game, when killed, should be forfeited to the nearest tribe of aborigines. It is a cruel thing to see the settlers destroying the game wan-

tonly, the only food of the wretched Indians. The above two species of animals will soon be extinct, if some protecting law is not speedily devised: perhaps it would be useful to have preserves of them, or large parks, fenced in with high paling.

ON DRINKING SEA WATER.

A certain foreign author wishes the world to believe, that there is a tribe of Indians, on the west coast of Australia, who have no fresh water, and that they drink that of the ocean; but, however he may succeed with his own countrymen, he will find it a difficult matter to persuade English travellers into a belief of it. We are now living in the enlightened nineteenth century, in which a host of modern travellers, and innumerable records of the remotest antiquity, all combine to prove that, in the whole history of mankind, there has never been known a single instance of any of the human race subsisting on salt water. There are numerous fertile islands in the world, within the reach of Indian tribes, and yet they remain uninhabited, for no other reason than the want of sufficient water. Those few wretched beings who have had the misfortune at sea to be forced to begin drinking sea water, have invariably died mad, and to suppose that a human being may be accustomed to it by beginning it in infancy, is absurd; it

is equally absurd to suppose that these Indians live without drinking. Had this author expressed a belief that they drank brackish water, it would have been more plausible; I myself have drank brackish water in India, and know it to be wholesome, much more so than the bitter, and in some cases, sour water of some of our Indian rivers and nullahs, that of the Toombudra for instance.* But the rest of this author's narrative partly explains the reason why *these Indians drink sea water!* It appears that the expedition not finding fresh water close at hand, used their stills and distilled sea water for the crews, which proved good and wholesome. The utmost extent of their researches for fresh water was to the amazing distance of *two short leagues* (six miles!) and on one occasion a party travelled a whole day into the interior in search of some lost comrades: probably the extent of this walk might be ten miles in a straight direction, as they were forced to make detours to avoid several lakes, the water of which he does not deign to tell us is either salt or fresh, but we may suppose the former. So then, because they were not so fortunate as to find fresh water, the Indians must positively drink nothing but sea-water!

* At Humpy, this water when mixed with brandy is too sour to drink.

I should be tempted to ascribe some secret motive for this story, did it not appear that the threatened hostility of the Indians, the heat of the sun, and the desolate appearance of the level country surrounding their camp had prompted the author to complete the picture by supposing the Indians were obliged to drink sea water.

If an armed party had followed the Indians when they retired into the country, they would undoubtedly have come in contact with fresh water, either in the shape of a lake or rivulet, but then the distance would have been too great perhaps, to supply the ships from it; and an excursion of the kind for any other purpose would not have suited the views of a sea officer, nor even have entered into his imagination.

ON AUSTRALIAN NOMENCLATURE.

The same author, however, makes a very just remark in his "Narrative," on the nomenclature of Australia. He seems to think there are too many places called by the same name. This may be true, but what would he have said to the fact, that in North America there were no less than *twenty-seven* places christened by the name of Washington twenty years ago, and perhaps a great many since!

However dear to the Americans that name may be, such a custom defeats the very inten-

tion. If it was meant as a memorial of respect it is now the reverse, for it is so common as to be tiresome both to the reader and writer : it is perpetually occurring to the ear, and the innumerable mistakes it must occasion in the newspapers are beyond calculation inconvenient. The truest respect to a name in my humble opinion, can only be shewn by giving it exclusively to the metropolis of the country, and not suffering it to be hackneyed for every petty territory, mount, village, or creek.

It would be as well to give this subject a little consideration in respect to Australia, previously to the march of any expeditions which may have the opportunity of naming places. I would here suggest a few standing rules for their guidance upon that subject.

In the first place, it is desirable that Australia should possess a nomenclature of its own ; *i. e.* so different from that of North America that it may be recognized or identified at first sight, to what country it belongs ; but I suppose the names of Windsor, Richmond, and Liverpool, cannot now be altered ; although these names were already affixed to different places in the United States and the West Indies, and there are at present no less than fourteen Windsons and fourteen Richmonds in the British dominions, or countries peopled therefrom.

In the second place, it should be a rule never to christen a place by a European name which had already an Indian one. English nomenclature sounds best in Great Britain, but it seems inconsistent, and I had almost said revolting, in a tropical climate. "Blackheath is a wretched misnomer; not to mention its awful contrast to the beautiful place of that name in England,—*heath* it is none. The Vale of Clwydd (like all colonial Windsors and Richmonds) does not at all resemble its god-mother in old North Wales;" and probably most other places in Australia christened after English, Scotch, Irish, and Welsh names, are equally as absurd.

To me, nothing can be more romantic or pleasing than an Indian name; but perhaps it will be said that I am an Indian myself. Most places in Australia have been known and called from time immemorial by the aborigines, by names in their own language; and it seems to be the most reasonable, the most sensible plan, to perpetuate those names instead of substituting European ones in their places.

The only way to come at the origin of the various races of men; is by the study and comparison of their different languages; and one of the greatest aids to the formation of a vocabulary or dictionary of an Indian language, is their geographical nomenclature; as nearly all

their names have some particular signification, which may be learnt from the explanations of the Indians themselves.

It is a singular circumstance, that there is a tolerably long list of Sangscrit names in the map of Africa, and I have seen an interesting article on this very subject in the Asiatic Journal. It would be curious if there should be discovered a resemblance between the Indian nomenclature of the east and west coasts of Australia, although the languages of the different tribes are widely different; and when those of Papua and the different islands in the Austral Archipelago become better known, some affinity may possibly be traced between them and Australian nomenclature, which may lead to a detection of the original country from whence our Indians at first emigrated.

Thirdly. I would recommend that every endeavour be made by the members of an exploring party, to learn of the Indians the names of every remarkable place intended to be laid down in the map; and in default of an Indian name, recourse should be had to the geographical dictionary, or list of latitudes at the end of this book, to ascertain what remarkable place is situated on the precise corresponding latitude; when, for the sake of shewing what country and climate such a spot assimilated with (which would ever be of the greatest use)

such spot should be christened by the name of that place. But in the event of not finding any remarkable place on the latitude required, the spot might then be named after one of our European worthies, the long list of which is to be found in our Biographical Dictionaries: but here again, there should be a rule which should never be broken through; namely, the name of an individual resembling that of any place in the British dominions should be a bar to its admission in the map. Let Australia have a nomenclature of her own.

The custom of naming every place after our public men and great ministers of the present day, although a good one, cannot, from the small number, supply a sufficiency of names for the many hundreds, I may say thousands, of places to be filled up in the map of that continent.

There can be no other excuse for naming places in Australia after those in Great Britain, but that of a resemblance in the topography of the spot selected; and even then, the similarity ought to be very exact and striking. I dare say, the Australian Liverpool presents not a single solitary feature that can be said to resemble the fine town of the same name in England, and it is any thing but productive of cheerful thoughts. The exile, whether of compulsion or choice, cannot visit that straggling village without being reminded of the noble

place he left in England ; the name must create painful remembrances, the mind will be agitated with an association of melancholy ideas and comparisons, in no wise favourable to the newly adopted country ; and it must be the same with the other English-named places, where the same comparisons and same feelings will be raked up by very fresh-arrived settler.

It is true, Liverpool was christened after a much respected nobleman, but because there was already a great town, of that name in the British dominions, it should have been an insurmountable obstacle to the naming of another. Why was not the name of Jenkinson as dear to the friends of the above nobleman as the other name ? it sounds as well ; it would look as well in the map, and, moreover, it would be a novel name in geography. For my part, I should like to see the name of Jenkinson substituted for that of Liverpool, when it would put an end for ever to the mistakes occasioned by a tautology in this name, and it would more certainly commemorate the person it was intended to do, than now that it is frequently supposed to be named in honour of an English town.

ON LAYING OUT PLANS OF TOWNS.

There is a paragraph in the Asiatic Journal, vol. xxv. p. 28, on marking out the boundaries of counties and parishes or townships in Aus-

tralia, which may be usefully followed up here by a few remarks on the prevailing system of laying out the plans of towns, as doubtless a great many will be built in various parts of that country in the course of a few years.

It is the fashion in North America and Canada to trace all the streets at right angles to each other, and for the most part they are not only straight, but all of the same width ; at least they are nearly so in Washington, the capital, and quite so in the town of Perth in Upper Canada and others. There can be no objection to the streets being made straight ; on the contrary, that form combines many advantages, and the current of air will pass easily through them, rendering them more wholesome, especially in a warm climate where the latter consideration is of some consequence ; and the wider they are the better. But I rather differ in opinion from the engineers and surveyors of the present day, with respect to making all the streets of the same width and all alike, which seems to be a fashion borrowed from some of the modern parts of the great towns on the continent of Europe. I have no doubt but that this plan suits the convenience of engineers, as it is an easy matter and speedily effected, to plant the line and trace the streets one after another, when there is no difference to be made between any of them ; but however fond they

may be of a favourite system, I feel myself at liberty to say that the public do not like it, especially strangers and travellers, and I can bear out this assertion, by referring to extracts from the travels of some celebrated men, who have complained not only of the monotony (if I may use such an expression) or tiresome sameness presented by these modern planned towns, but also of the extreme difficulty of finding out the street they wanted, from their being all alike.

I once lost myself in the town of Lille, in French Flanders, and rambled up one street and down another, and up another and so on, twice or thrice arriving at the same spot, until I was heartily fatigued, and my wrath began to wax sore. This happened about twenty-six years ago, when I was a rambling young man. Lille is a large town, but one would think not so large as to occasion anybody to lose himself in it. The truth is, I had wandered into your modern newly built quarter, handsome private houses, handsome streets straight as an arrow, but all alike, and quiet as death, a dull fatiguing sameness reigned throughout, not a soul to be seen of whom I could enquire my way, but just as I was beginning to despair of finding my way out of this Flemish Cretan labyrinth, a servant girl opened a door near me, and she proved the angel of my deliverance.

The inconvenience of these modern plans is

felt in various ways, and if strangers and travellers complain of them, so must the inhabitants particularly of the shops, who will often lose a customer through the difficulty of finding them out, in streets all alike.

Like the five orders of architecture, I would have five orders of streets. Every town should be built on a gently sloping ground for the sake of two desiderata, air and dryness, and that the rain water may run off and carry away with it the filth. A town should be crossed at the centre by two grand streets intersecting each other at right angles, which I would call the composite streets, although the architecture and size of the houses need not be handsomer than Regent Street in London.

The composite streets should be 150 yards wide at one end and fifty yards wide at the other, (no matter for their length even if it should be four or five miles) and they should contain the town residences of the nobility and gentry, the king's or governor's palace, the houses of parliament or halls of legislature, the cathedral, the national public-offices, such as the horse guards, the war office, the admiralty, high courts of law, foreign ambassadors' town residences, &c.

The next streets, outside and contiguous to these, I would call the Corinthian streets; which should be one hundred yards wide their

whole length, and be occupied by the houses of wealthy merchants and shops of the first class; the lord mayor's palace, the guildhall, the halls of the courts of justice, the halls of the different corporations, club houses of people of rank, and the buildings of the different institutions and museums, the taverns and hotels of the first class, and the principal theatres, &c.

Outside the Corinthian and next to them I would place the Ionic streets, eighty yards wide their whole length; in which private houses of the third class and shops of the second class should be built. Here I would place the exchange, the counting-houses of that part of the public who did not permanently reside in town; also the inns and stage coach offices, the secondary theatres, the coffee-houses, circulating libraries, and reading-rooms, &c.

Outside the Ionic, and next to them I would place the Doric streets, sixty yards wide their whole length, and occupied by a fourth class of private houses and a third class of shops; also inferior club-houses, small theatres, public houses, licensed livery stables, mews for the horses and carriages of country residents, &c.

And outside the Doric (in the remote parts of the town) should be built the Tuscan streets, fifty yards wide their whole length, consisting of small houses for all the middling and poorer

classes of all denominations, petty shops for all kinds of handicrafts, pot-houses, &c., here also should be placed the buildings of the various manufactories. Gothic and mauresque streets might be successively built outside the Tuscan, but not of the same width as the latter, if the size of the town demanded such an extension; and it would be best to mark them out and preserve the ground vacant from the first founding of a town.

Squares, fountains, market-places, and canals, may be placed *ad libitum* in the most advantageous situations, to suit the localities of the ground.

Nearly all the churches, and particularly the cemeteries should be situated on the outer borders of the town: the former should stand in the centre of handsome open squares, not joining any other building, but accessible all round, which would afford a display of their architecture; and they should have square tower steeples as being the strongest and best adapted to withstand the shocks of storms in a warm climate. Supposing a town to be square, the four sections at the four exterior angles would be the most appropriate situations for four public cemeteries.

Every street should have a verandah on each side, in front of the houses, and of the same width as the foot paths; say seven, ten, twelve,

or fifteen feet wide, according to the width of the streets. The enjoyment of a verandah is well known in India, and would be equally felt in Australia, especially during the mid-day sun of summer or the torrent of the rainy season; and here the architects and builders would have ample latitude for introducing all the devices and ornaments of the respective orders of the streets, enough to exhaust the science. As well as the minarets and cupolas of the mussulmans in the mauresque streets, the rustic, square, massy, and sometimes pyramidal pillars and columns of the Hindoo and Theban architecture might be introduced into the Gothic streets.

All the entrances to every town should be through a park, that is to say, a belt of park of about a mile or two in diameter, should entirely surround every town, save and excepting such sides as are washed by a river or lake. This would greatly contribute to the health of the inhabitants in more ways than one, as well as pleasure: it would render the surrounding prospects beautiful, and give a magnificent appearance to the town from whatever quarter viewed.

Every square section of a town, or pile of houses, should be a quarter of a mile in length each way, which would allow space in the interior for a small court at the back of each house,

so necessary in a warm climate. If the sections were extended to a greater length, it would be productive of inconvenience to the thoroughfare between different parts of the town; and if to a less, it would unnecessarily cut the streets in too many places, and spoil their appearance.

Narrow lanes and alleys should be abolished and excluded from the interior of towns; they are the hiding places of thieves, the abodes of misery, the manufactories of every species of vice and wickedness, into which thousands of youth of both sexes are decoyed, and from whence many never return! Would to God that, during the present rage for improvements in London, all those miserable places of vice and filth, enough to contaminate the air, the purlieus of Drury-lane, the Kent-streets, the St. Catherine's, St. Giles's, and all such like cut-throat lanes and alleys, were razed to the ground, and replaced by wide streets or squares of comfortable and substantial houses, for the poorer classes of the metropolis; and that Government would sanction the licencing of *Protection Houses* for hapless prostitutes,—a kind of night hotels, where neither the lives nor properties of men would be in danger,—the same as in Paris. To use the words of a learned Judge, in passing a late sentence for violence in a house of ill-fame, “ While human nature remains as it is, men will associate with such women;” and

the latter are so necessary an evil in crowded old cities, that it would be dangerous to society to put down the evil even if it could be done. I lament the opinions of the man who would say, that licensing houses would be the same as an encouragement to the sin, and that it would be contrary to the doctrines of the New Testament, which says, "shun the appearance of evil." The evil may be shunned by the same persons who alleviate or diminish it, and it would be alleviating it by placing it under regulation; but alleviation is not encouragement, nor will withholding the regulation prevent the pest from spreading. The Lord, when on earth, looked with compassionate eyes on harlots and adultresses, and shall not we? The Almighty sends his rain upon the good and upon the wicked, and shall not we? Shall we continue still to refuse our aid in rendering the sins of the fallen less dreadful than they are; Let us rain compassion upon sinners of this class, in the shape of *regulations*; let us organize a system which shall bring the *fallen* more immediately under the eye of the law, by licensing *Protection Houses*, and visit the discovery of any unlicensed with the utmost rigour, such as transportation for life of the whole of its inmates. Let us throw a multitude of good books and tracts into such houses; perhaps a word or a line may catch the eye, and many be saved

thereby; perhaps many offences, now done in secret, will not be perpetrated at all when the haunts are more public and under special surveillance. The experiment might be tried for five or ten years. But I crave the reader's pardon for this digression.

Long *straight* avenues of trees should be excluded from the park, as only tending to obstruct the prospect at various points; the only avenue of trees necessary for equestrians and carriages, should be round the outer circumferential line of the park, and, of course, extending entirely round the park and town. Beyond the park might begin the gardens and country houses, and further on the farms.

The palace should be placed at the wide end of one Composite street, extending across it so as to command a view of the whole street, and the cathedral should be placed across the narrow end of the other Composite street; so that viewing either street within, from one of its ends, it would present the grandest coup d'œil imaginable, the whole being seen at once, as it were the interior of an immense temple, but without roof.

If the town were intended to be a metropolis, there should be four composite streets marked out in the plan, intersecting it near the centre, instead of only two, but at the same distances from each other as the rest of the streets.

The territory of a newly discovered country being Government property, there cannot be that objection to the adoption of a regular system for the plans and buildings of towns that there is in an old kingdom; neither can the execution of a system adopted at the beginning be attended with inconveniences to the public, or be complained of as a grievance to private individuals, which is the case sometimes with modern improvements. It is useful to adopt a system, and when adopted it should be made law, and after it had been enforced a few years it would become *custom*. The plan I here recommend is applicable to the small village as well as the great city, because its fundamental principle is the different widths of the streets, the intersecting angle of the *two widest* being always the *centre* of the place, and they should never be traced a less length than four or five miles; and as it is possible that a village may rise into a city, every spot of ground, when first selected for a village, should have the width of the central streets traced out on the ground, and the cottages and barns should preserve the regulated line of the first composite street: the progress of ages would alone see the growth of villages into towns, and the latter into cities, by the decay of houses, and the building of handsomer ones in their stead; but the plan would never alter, although the streets

might be extended from time to time, till they actually reached the length of ten miles, or any indefinite length.

It would be advisable for the Local Government to select and fix upon all the places for villages and towns immediately, and have them marked in such maps of the colony as are finished, continuing to do so as fresh maps shall be brought in by successive travellers or surveyors; and that a law, comprising building regulations and plans of streets, be published at once, that the public may have it to act upon.

Marble, and such stone as may be burnt into lime, should be interdicted from being used in the walls of any building; indeed, a nation that would wish its public monuments to survive the periods of civil war, or the reckless hand of barbarians, would never use marble. The sculptures of the Hindoos and Egyptians would not have seen the revolutions of thousands of years had they been marble. Granite, sandstone, or burnt bricks, are the best materials for every purpose.

In the foregoing plan, all the streets being of a different width, the houses in the same street being all of one order of architecture, or one style of building, and in that respect every street differing from another, there would be beauty and variety, instead of fatiguing uniformity; it would be impossible for strangers

and travellers to lose themselves, or be at a loss for finding their way readily about a town, however long the streets might be, and however extensive the town: the inhabitants, also, of every rank, would have the ends of their own streets debouching into the country (the park); the wealthy would arrive at their own houses without having to pass through the thronged habitations of the poor; and the latter could arrive at theirs without having their envious feelings raised at the sight of the former. There is no reciprocal or friendly feeling between the different classes of mankind, but every rank is happiest kept to itself.

Plate 4 represents the plan of a large town, drawn agreeable to the measurements and description in the foregoing details; to which I must add, that the great width of the principal streets is intended for a double row of trees to be planted on each side of them, like those of Pondicherry, the plan of which town does honour to the taste of Frenchmen. The narrow streets in the plan should not have trees.

The foregoing system, of course, is only applicable to rising states, where towns have to be planned and marked out from the beginning. As such, I humbly offer it to the Australians.

N. B. Just as this work was going to press, I observed in the Asiatic Journal, of April, 1830, that Governor Darling has published a system of regulations for the building of towns in the interior, the main streets of which are only to

be one hundred feet wide ! Such narrow streets, in a warm and dry climate, will neither admit of a current of air nor prevent conflagrations from spreading. I state this from abundant experience gained in India.

ON BUILDINGS AND BUILDING SOCIETIES IN AUSTRALIA.

In a warm climate, the roofs of houses should be terraced (flat) and not sloped or thatched ; as the latter kind are very subject to catch fire, and the sloped roofs prevent the possibility of enjoying a real luxury, namely, an evening lounge on them during the hottest season.* Terraced roofs should have an insen-

* The terraced roofs in India are formed in the following manner, viz. the teak joists being nicely planed, and moulded at the lower edges, are laid across the house or room, on the top of the walls, with an interval of six or eight inches between each joist and then a process like vaulting is begun ; namely, small bricks are laid vertically (on their edges) side by side, upon the joists, firmly fixed together with strong mortar, the same as in turning the arch of a vault, but of course without forming an arch, and every crevice between the bricks must be carefully filled with mortar. When this first layer (of bricks) is perfectly dry, a coat of strong mortar, mixed with large sand or pebbles, about the size of No. 1 shot, should be plastered all over the bricked roof two inches thick, and gradually, as it dries, it should be gently trodden firm, and all the cracks closed. When dry, a second, but thinner, coat of mortar (about half an inch thick) should be plastered over the first, and trodden carefully as it dries. A third and last coat, of very fine mortar, chunam, or stone cement, is to be laid over the roof, and polished as it dries. Such are the materials and methods of forming our excellent water-proof flat Indian roofs.

sible declivity (or several if the flat roof be extensive) just sufficient to give the rain that falls, a course, which falling into pipes, should be conducted into subterraneous cisterns, which would supply the family in each dwelling, with water the whole year till the rainy season returned again.

The joists of floors and the rafters of the roofs should be exposed, and not hidden by lathe and plaster ceilings; and they should be varnished or painted, to preserve them from the latent attacks of white ants, or from being infested by snakes or other vermin.

Houses should not exceed two stories high in Australia, which country, like India, is subject to heavy tornadoes and hurricanes at the setting in of the several rainy seasons, which endanger lofty buildings and carry away the sloped roofs. The walls of houses, for the same reason should never be less than two feet thick on the ground floor, and eighteen inches on the floor above it (first story). A battlement is invariably formed round a terraced roof, by carrying up the walls of the house about two feet higher than the terrace, and it is strengthened at short intervals by an additional thickness, in the shape of small ornamental columns.

As the climate is not wholly a hot one throughout the year like that of India, nor a

cold one like that of England, the rooms of a house should be so planned as that each might possess comforts appropriate to the seasons; thus, I would recommend that no house should contain less than four rooms (but as many more as the builder can afford) which I would denominate *the summer-parlour*, *the winter-parlour*, the summer bed-room, and the winter bed-room. The summer-parlour should never be less than twenty-four feet long by sixteen feet wide, having a row of windows all round three sides, any one or two of which, might occasionally be used as doors if they are made low enough; and as both doctors and architects of the present age are agreed, that all windows ought to reach the ceiling, in order that no impure air might be confined within the room stagnated near the ceiling, let it be an Australian maxim to have all windows made as high as the ceilings of rooms. Windows should not be less than four feet wide, but as much wider as their proportion to height requires. The summer-parlour should have neither fire-place nor chimney,—but on the contrary, a small punkah hanging along the centre of the ceiling, to be used occasionally to ventilate the room, and it might be kept in motion by the application of some simple machinery. The summer bed-room should be on the same plan; and the

height of these summer-rooms should never be less than sixteen feet, but much higher when of much larger dimensions.

The winter-parlour and bed-room should never be less than fifteen feet square and nine feet high, nor have more than one window and one door; they should each have a chimney and a fire-place, the latter being occupied by a comfortable hob stove with elliptical bars. I shivered with cold at the Cape of Good Hope for want of a fire, there being no fire-place in the parlour of the house I lodged at. The windows of the winter-rooms should be made after the Australian maxim, as high as the ceiling.

All houses, both of rich and poor, should have a piazza, alias verandah, round at least three sides; for in winter, during the heavy torrents of rain, it is a great comfort; and in the summer, the glare of light is almost intolerable to the eyes unless softened by this delightful shade. The roofs of verandahs should certainly be flat or terraced, so that the roof of the lower one might serve as an open balcony or gallery round the upper rooms.

Kitchens or cook-rooms should not form part of a house, but they should consist of a detached building of two rooms on the ground floor with a terraced roof, and a narrow veran-

dah round it; this building being placed immediately at one of the angles of the house, and touching the verandah of the latter, would neither intercept any prospect from the windows, nor be at such an inconvenient distance as to cool the victuals during its conveyance from the fire to the table. These two rooms might each be twelve or fifteen feet square; one, the cooking-room, and the other the washing and brewhouse. The height of this building should be proportionate to that of the house, especially the chimney, otherwise the smoke might descend into the chambers. The smell of the kitchen in a warm climate, besides many other inconveniences, makes it an absolute necessity to have it a detached building.

I would recommend every wealthy or respectable inhabitant of Australia who can afford the expense, to have two small rooms, say ten feet square each, in his house, for the particular purposes of a bath, and a magazine of grain, (I will not call it granary.) The bath should be built with masonry on one side of the bathing room; it should not be less than six feet by three, and three feet deep; and the bottom on a level with the floor of the room, with a small hole to let out the water; plastered with cement inside, and the water led into it by a cast iron pipe. Bathing is one of the

greatest preservers of health in a warm climate, not to say indispensable; and it is moreover an innocent enjoyment, a cheap luxury.

A magazine of wheat is a part of domestic economy so seriously and absolutely necessary in a warm climate, that I believe few natives of India, of Egypt, the empire of Morocco, of Italy, and many other warm countries, but what have them. The inhabitants of those countries are so well aware of the necessity of guarding against the failure of crops and consequent famine, that there are few houses without them. The magazines of grain are very different from the English farmer's granary, which is supported on posts in the open air, and crowded with several kinds of grain and other things, only intended to be preserved from one harvest or market-day to another.

“The agriculturists in all the Arab provinces of the empire of Morocco,” says Mr. Jackson,* “have *matamores* or magazines for the preservation of their wheat in case of a scarcity or famine. These magazines are subterraneous excavations or caverns, having a small opening on the top like a trap-door. They are from six to sixteen feet deep and of various conical forms. The magazines should not be con-

* *Vide* Jackson's “Account of Timbuctoo.”

structed in a clay soil, and they should be seasoned before the grain is deposited. It is expedient in their construction, to exclude the atmospheric air; and the soil in which they are constructed should be essentially conservative: the air being never changed is constantly of the same temperature, very dry, and not subject to the variations of humidity, which affect the external air; these, with other necessary precautions being observed, will preserve the wheat sound for twenty or thirty years. I have been present at the opening of them after the corn had been deposited twenty-one years. It was perfectly sound. When one of these depositories is opened, it is expedient to consume the corn immediately, each family therefore takes a portion of the grain, so as to distribute the whole, otherwise, in a few months, the remainder would acquire a bad flavour. To prevent this, an Arab, on opening his magazine, lends corn to all his neighbours, and in his turn he receives it back again, when they respectively open theirs. It is unnecessary to expatiate on the expediency of constructing these magazines, as they are indispensable in countries liable to drought, scarcity, inundation, or blights of locusts and caterpillars. There would be a manifest policy in establishing similar magazines in our South African and Australian colonies, the climates and soils of which

so nearly resemble those of West and South Barbary."

Although subterraneous places may preserve the wheat best, yet I should think the same object might be attained above ground, by the careful construction of the room intended for a magazine, in the *centre* of the house, a situation where no outer air could reach it; the four walls of the room being of masonry well cemented together, and necessarily without doors or windows or any other aperture whatever, except a small trap-door on the top, opening in the floor of a room above it, and the ceiling, floor, and side walls within being also well coated with cement. In such a room, in such a situation, dry wheat might be preserved from vermin and damp for several years, and the owners be thus always prepared against bad seasons and temporary scarcity.

Having detailed the foregoing few general rules for Australian buildings, which I have deduced from my own observations of the safest and most convenient houses in India and Austral-Africa, modifying and mixing up the best of both countries together, which I think will just suit the Australian ultratropical climate, they will serve for an introduction to the main purport of this article, namely,

The universal cry against the exorbitancy of house rent in Australia and Tasmania, which al-

though it has been raised by newly arrived emigrants, visitors and travellers, for years, seems to have produced no effect on the landlords in those colonies, as strangers still continue to make heavy complaints against this part of their reception at Hobart Town and Sydney ; and it is the more to be lamented, as it will certainly have the effect of damping the ardour for emigration in hundreds of people whose little properties will not bear to be thus cruelly sunk for nothing on their very first arrival out. I can assure the Australians that whatever their temporary gains may be by persisting in this obstinate system of extortion, they are conferring on themselves a bad name, and very seriously injuring the prosperity of their young country. Were house rent as proportionally low as it is exorbitantly high, they would not be under the necessity of fleecing new arrivals for two months, to make up for the loss in houses standing empty the remaining ten months of the year ; for, was it well known that people could live cheap, they might be sure of a concourse of visitors from all parts of the world, as well as invalids from India ; of a full town and of tenants the whole year round ; but as it is, strangers must altogether keep away, or flee to the forest as soon as they land.

However, as the householders at the sea ports turn a deaf ear to every remonstrance

against their shamefully high rents, to the manifest injury of the cause of emigration, and to the delay of peopling their country, I would recommend the wealthy and independent gentlemen of Australia to form themselves into a *Building Society*, for the purpose of mutually co-operating in the erection of a number of substantial and convenient, but not expensive, cottages all over their country, choosing and selecting the most advantageous sites, whether as it respects landscape-scenery, vicinity to wood and water, or health, and more particularly where towns or villages are marked out or desirable to be fixed : and let one fundamental rule of the society be, to build every cottage either with burnt brick and mortar, or stone, that they may be serviceable to the purchasers or tenants, an ornament to the landscape, a step towards the improvement of the country, and an honour to themselves, and not soon become tumble-down pigsties ; and away with the custom of erecting wooden houses and clay walls, both alike mean in appearance and subject to early decay.

Although building societies should not consider *profit* their object, yet they might reasonably expect to get their outlay, or a part of it, back again, from time to time. The mode of remuneration might be of three kinds : first, by the settler purchasing his house, and paying for it either at once or by instalments ; se-

condly, by renting it by the month, the year, or on lease for a term of years; thirdly, by paying a donation or entrance subscription to the society, and joining it as a member, with the privilege of living in any one of the society's houses for three, six, nine, and not exceeding twelve months, during which time the settler would be building one for himself, or he might contract with the society for them to erect a house for him.

I strongly urge upon the Australians the adoption of some measure of this nature, to provide new comers with shelter at a moderate rate, and keep down the baneful grasp of avarice and extortion in house rent.

The following scale of house rents should be adopted in that country, with the understanding that the absolute *minimum* size of dwelling rooms should be fifteen feet square, and that there should not be a dwelling room in the whole colony of less dimensions. I know, by painful experience, what it is to be obliged to live in a small room in a warm climate, and I would therefore urge the colonists to begin betimes a good and wholesome custom, which may be continued from generation to generation.

SCALE OF HOUSE RENTS IN AUSTRALIA.

Per Annum.

A house containing one sitting-room and one					
bed-room	-	-	-	-	£1

	<i>Per Annum.</i>
Ditto, two sitting-rooms, two bed-rooms, and a cook-room - - - -	£5
Ditto, three sitting-rooms, three bed-rooms, two cook-rooms - - - -	10
Ditto, ditto, ditto, with farm buildings	15
Ditto, four ditto, four ditto, two ditto, with ditto	20
Ditto, five ditto, five ditto, two ditto, ditto	25
Ditto, six ditto, six ditto, two ditto, ditto	30
Ditto, seven ditto, seven ditto, two ditto, ditto	35

And for every additional two rooms above fourteen, five pounds per annum.

The term "sitting-room" is to include best parlour, common parlour, drawing room, saloon, dining room, library, billiard room, and ball room, &c. &c.

All rooms less than fifteen feet square to be reckoned as closets, conservatories, magazines, offices, bathing rooms, &c., and to be considered *into the bargain*, without affecting the scale of rent.

The above rents are lower than what is customary in England, and so they ought to be, if the very different and inferior manner of finishing a house in Australia be taken into consideration; for whatever may be the wages of mechanics there, some allowance should be made for a great deal of unpaid labour of convicts, which, in an extensive concern, must be a saving of some thousands of pounds; and without the Australians hold out the hand of *cheapness* as well as friendship to settlers, they must not expect Englishmen to quit their homes,

however highly taxed, to jump from the frying-pan into the fire.

N. B. It is an idle ruinous custom, that of building the walls of houses with sun-burnt bricks, and more especially so in districts where either coals or firewood is plentiful. Such walls are incessantly liable to crumble and fall; for in case of any accident or damage to a roof from a storm of wind and rain, the water which penetrates the top of the walls sinks down, and either bursts them or completely and irremediably spoils their appearance.

I would caution all new settlers against purchasing or renting houses with such walls, and thus discountenance this idle and rotten way of building.

Staircases should always be built with brick or stone, agreeable to the sensible and substantial fashion in India.

ADVICE TO THE AUSTRALIAN YOUTH.

I cannot omit offering a few observations on the circumstance of the Australian youth losing their teeth at a very early age. This sad defect and infirmity has been noticed by two late writers, viz. Mr. P. Cunningham, and the author of the "Letter from Sydney," the latter of whom gives the following sensible reasons and advice on the subject.

"Many of the Australian youth lose their teeth at an early age. This is an ill truly American; and it is produced in both countries, I believe, by the same cause or causes. Volney, a man of taste as well as of deep research, was educated for the practice of physic. Being most kindly disposed towards the Americans,

and shocked at the state of their mouths, he gave himself the trouble to enquire, and to tell them, not only why their teeth decayed so early, but also how that sickening evil might be avoided by future generations. He shewed that the disease is not strictly endemial, but that it arises from the EXCESSIVE USE OF ANIMAL FOOD AND STRONG DRINKS, in a climate not adapted to such gross sustenance. His view of the subject is founded, in part, upon a survey of human habits, from the equator to the north pole. The nearer people live to the sun, the less animal food, and the less animal *fat* especially, do they consume. The Esquimaux, who live as far as possible from the sun, breakfast, dine, and sup upon bears' grease and blubber; whilst the northern nations are remarkable for their love of strong spirituous drinks, and for the impunity with which they swallow enormous quantities of them.

“ To gormandize flesh, and to guzzle strong drinks, is the mark of a low-born Englishman all over the world. These habits are not destructive to the teeth of English people, but the descendants of English people in America lose their teeth. The descendants of Spaniards and Portuguese in America, who are temperate in eating and drinking, do not lose their teeth. Hence it is inferred, that the English Americans owe the loss of their teeth to the intem-

perance which they have inherited from their ancestors.

“ So far Volney : but the Americans scorned the friendly suggestions of Volney ; and, it may be added, they continue to be afflicted with the early loss of their teeth.

“ Gormandizing and guzzling are habitual only to certain low classes of English people, and I attribute the loss of teeth, which disfigures so many of the Australian youth, entirely to these low English habits. Some of them have adopted habits more suitable to the climate, and these have generally beautiful teeth.

“ I have taken pains to ascertain what has been the ordinary food of those young people who are remarkable for very good or very bad teeth, and the result of my enquiries is a conviction that gross English feeding, under an Australian sun, if steadily pursued from infancy to puberty, will spoil nine mouths out of ten. I also believe that this disease may be eradicated. If you come here you will, I trust, join me in a crusade against gormandizing and guzzling.”

So true and useful is the foregoing extract, that, for the good of human nature in that country, it ought to be inserted in the first column of every newspaper in the colony; once a week, for thirty years, or until such time as the population shall be reasoned out of the

baneful custom which causes this shocking infirmity, and it should be supported by every available argument and remonstrance, with "line upon line and precept upon precept;" for although beauty is but a secondary consideration, yet there must be something very injurious to the constitution in the mode of life which causes any physical defect.

I have noticed in India the universal early decay of the female sex, which does not shew itself so much in the loss of teeth as it does in the alteration of form, and in the colour of the hair, for the Indian women begin to lose their beauty at the age of twenty, look old at thirty, and are grey headed at forty; from which period, during the rest of their lives, many of them look the most hediously disgusting objects under the sun, and this is owing to their *early marriages* and juvenile amours, in an exciting hot climate. Neither do they bear many children, four being considered a large family, but countless are the numbers who are barren. This may be one of the reasons why Asiatic law-givers have authorised a plurality of wives, but as only the wealthy can avail themselves of such a law, the increase of population must be very much retarded in comparison to the countries of Europe; England for instance, where the poor man frequently reckons from seven to twelve or more chubby offspring around his

table ; and I know of several ladies of high respectability, who have had twenty-one handsome children grow up to the adult age.

If I may be allowed to reason from analogy, and taking the amorous character of the Australian lasses into account, perhaps their early marriages may have something to do with the early loss of their teeth (though unquestionably gross feeding is the principal cause), and I would therefore advise parents, and the youthful females themselves, to make trial of a better custom, *i. e.* to delay their marriage until they had acquired the age of eighteen or twenty years, when their constitutions would be solidly established and their forms full grown, instead of approaching the altar of Hymen at the ages of from thirteen to sixteen, delicate, thin, feeble girls.

If the Australian lasses wish to preserve their beauty, they will pay attention to the foregoing paragraphs, and if they wish to have the great blessing of a healthy and numerous offspring, (and children are a great blessing in a country wanting inhabitants), and to escape the solitary state of barrenness, where children are riches, they will avoid drinking spirituous liquors, such as brandy, gin, whiskey, rum, and arrack, with or without water ; they will not indulge their appetites in meat oftener than once a day, and they will especially avoid too early marriages ;

and then, when their heads become ornamented with the venerable signs of age, it will be attended with the pleasures of a numerous family circle, and blessings only known in patriarchal times, and which cannot be felt in a country possessing a crowded population.

While on the subject of health, I shall just offer another hint for consideration, viz. that I learnt by frequent experience in India, that the best hour for dinner in a warm climate is one o'clock at noon, or two at the latest, a period of the day when the sun shines the hottest; when most people are glad to be within doors, and when the labourer if compelled to work, would not effect much. In fact no out-of-door labour ought to be done between twelve and three o'clock during the hot month of January.

Our regimental mess usually dined for convenience at six or seven o'clock in the evening, and sometimes at eight, but unless we sat up nearly half the night afterwards, these late dinners were admitted to be very prejudicial to our sleep, and consequently to health, as going to bed with a heavy meal on the stomach always produced very disturbed rest, and loss of appetite for breakfast next morning.

I should think, therefore, that it would be well to establish the following maxims for the hours of meals, &c.—namely, an early dinner, and to eat meat only once a day and that at

dinner,—an early tea, say six o'clock, which enlivens the spirits and refreshes the body ;—the evening spent in conversation or reading ; and early to bed, say nine o'clock, without supper, or at most, a very light repast of salad, boiled egg, and bread and butter. The night would be then passed in sweet and refreshing sleep, and the glorious sun would welcome the early riser to a hunt, or a superintendence of some agricultural operation, and a keen appetite and cheerful mind at breakfast at eight next morning.

I observed the following remark in the Atlas newspaper of December 6, on the societies formed by the inhabitants of North America for the suppression of dram drinking. “Temperance societies have so much increased in some parts of the United States, that in one part of the union alone, fifteen hundred venders of ardent spirits have given up the trade.” Thus it appears, that the Americans are at last awakened to the dangers and miseries of the destructive habit of guzzling, and although late—better late than never. May the Australians early take the hint.

. I may here remark, that ladies in England clean their teeth so often and so much, that they destroy the enamel, when the teeth soon become discoloured. Tooth powder should be used seldom and sparingly, not oftener than once a week ; and a soft brush with plain water the other days.

ON THE UTILITY OF INTRODUCING SIMPLE MUSICAL INSTRUMENTS AMONG THE INDIANS.

The aborigines of Australia have an ear for music ; they not only sing, but perform in very good time on two sticks and seem to be very fond of the accomplishment. Simple wind instruments are peculiarly adapted to uncivilized man, and there is one which any body can play upon without any teaching, viz. the English boy's whistle. I once saw a numerous band of music walking in front of an Indian procession (at Trichinopoly) which consisted of nothing but English whistles or what are called *English flutes* in contradistinction to German flutes, the former having mouth-pieces and being very easily blown. These instruments are about twelve inches in length. There were at least twenty or thirty men performers, all playing together like a collection of birds trying which could whistle wildest and loudest, and there was no other instrument whatever as an accompaniment.

I should think that the introduction of our common tabor or tambourine without jingles, and English flutes, would be hailed by these children of nature with delight, and it could be done without much expense. A few thousands of English flutes might be exported to Australia and dispersed among the various

tribes, always hanging the gift about the neck of the receiver by a riband on first presenting it, and shewing him how to blow it. They would certainly make as good performers as those of the abovementioned band, which was by no means disagreeable; but I look for a latent advantage in the introduction of these musical toys; they would soon learn to make their own tabors, and in the course of one generation, perhaps sooner, the love of combats and savage cruelty would give place to the love of music, wild or pastoral it may be, but so much the more romantic.

If every emigrant proceeding to Australia were to carry out a few flutes of the above cheap description (the price of the large ones is from fourpence to sixpence each, at the shops) he might give them to the Indians in the neighbourhood of his adopted residence, who would soon be too well pleased with the sound of their own music in the woods, ever to throw them away.

The introduction of such simple music into that country may appear very trifling, but its simplicity is that which adapts it to the untutored savage, and trifling as it is, it may after a time divest the Indians of a portion of their ferocity, and finally reclaim them from their love of cruel combats. Most important effects sometimes arise out of very trifling causes.

SETTLEMENTS NEAR THE SOUTH COAST OF
AUSTRALIA.

I wish to call public attention to the isolated settlements on Flinder's and Kangaroo islands. On the former there are twenty people, and on the latter there are forty men, women, and children, living in a state very little above that of savages. The men were convicts who deserted from the colonies many years ago, and having carried off some Indian women in their voyage to the islands, have been struggling with all sorts of privations and sufferings ever since, neglected and left to fate. Whatever may have been their offences, policy and humanity would seem to dictate that the time was arrived when an amnesty might be granted to them; but lest it should serve as an encouragement to other convicts to desert, it should be done *under the rose*, and on the special condition that they never quit the islands for any purpose whatever.

With a pardon there should be sent some persons in authority, to order and regulate the streets and buildings of the new towns in these settlements, as also missionaries, a few convict women, and tools and seeds: for let it be observed, that these convict deserters are accomplishing a positive good in the very commission

of their crime, by the creation of English communities in uninhabited islands of the ocean, from which benefits may flow hereafter too numerous to mention. The men themselves, it is said, are become brutalized through neglect and being cut off from society; but they have got children by the Indian women, and shall these poor infants be also neglected? I appeal in their behalf to the Missionary Societies of my country, and earnestly crave their attention to these interesting but lost children. May the societies send them missionaries and school-masters, and although their good example and exhortations should be lost upon the old offenders, they would assuredly raise up a thriving community in their offspring, who would bless their benefactors; and eventually be the means of carrying civilization among the Indians on the neighbouring shores of the continent.

Kangaroo Island is very conveniently situated for affording assistance to ships driven in that direction by stress of weather, or embayed near the shores of the Bight; and these convict settlers must be now pretty well accustomed to, and acquainted with the climate of the place, and perhaps some useful information might be gained from them

AN ATLAS OF OUR AUSTRALIAN COLONIES A
DESIDERATUM.

It is now some years since Mr. Oxley's map of the colony was published ; and as there have been many additions made to the surveys, and several small settlements formed up and down the coast in this interval of time, a new and extended map, including all the new discoveries up to the present date, is much wanted. It is also very desirable that an atlas of Australia be begun, and that one or more sheets of it be published annually, according as the surveys are proceeded in ; on the plan of the admirable new atlas of India, now in course of publication. The utility of such a work is too obvious to need demonstration.

CHAPTER XIV.

MISCELLANEOUS.

IGNORANCE OF THE SEASONS, AND OF THE CAPABILITIES OF
THE SANDY SOILS IN WARM COUNTRIES, A MAIN OBSTACLE
TO THE SUCCESS OF SOME EMIGRANTS.

HAVING passed much of my time among some of the most respectable farmers in Essex, since my arrival from India, and having resided three years on a large farm, I think I may, without presumption, consider myself competent to give an opinion on agricultural subjects, especially as to the capabilities of different soils, both in cold and in hot countries.

Some few travellers and writers on Australia, Austral Africa, and Equinoctial America, have condemned the sandy soils of those countries as being not only unproductive, but arid and sterile; and this decision they have hastily come to at the first glance, (passing by in the dry season), for want of knowing better. Having acquired their agricultural and horticultural

knowledge in England, they judge the soil of every other land by that of England, which they take as the standard of comparison; but how erroneously and unjustly they would learn in one short residence, during a wet season, in a warm country.

An All-wise Providence has adapted every soil to its climate all over our planet, and I believe it will be allowed that, with the few exceptions of the alluvials in the vicinity of rivers, which are naturally rich, the *black* cotton grounds, the next in goodness to the alluvials, and the deep loose heavy sands of the sea shore and inland deserts, which are utterly unprofitable and useless; the greater part of all continents, situated in warm climates, consists of sablonous or sandy soils, which may be rendered highly productive by artificial irrigation; and it is fortunate that they are generally of a sandy nature, for if they were otherwise, the labour of working them would be immense. The soils of Barbary and Morocco, in the north of Africa, are sandy, and yet the most astonishing crops of wheat are grown in these countries. Our English emigrants sometimes sit down in the sulks when they cannot locate themselves on strong heavy wheat lands, like the Essex loams, and abuse, without mercy, the light, useful, compound sandy and argillaceous soil of their estates, which is so much better adapted to a

sunny country, and so much easier to work, and only wants a sober attention to the anticipated season of the rains, that the seed may be in the ground in readiness.* But if they could have what is called in England, strong loams and good wheat land, the sun would bake it almost to the hardness of stone, and pickaxes, not ploughs would be required for the operations of tillage; and even then, scarcely the strength of man is sufficient to break the clods.

We know by experience that, even in England, light lands ought not to be ploughed deep, for otherwise the sun soon evaporates every particle of goodness and moisture, and burns the roots of the corn; then with how much more reason ought deep ploughing to be avoided in a warm country. The plough should never go deeper than six inches in Australia in any soil, and less than that in some.

I have resided in places abroad, which resembled deserts during the dry season, and have been really astonished at the *productive powers* of these shamefully abused deserts, when water has been artificially led on; and delighted with their verdure during the rains.

I feel a strong conviction that the generally

* Sometimes seed will not vegetate at all in new earth, the first year of its tillage. I have been witness to this fact, as well as informed so by a respectable farmer.

sandy nature of the soil of Australia has been made a bugbear to deter people from emigrating to and settling in that favoured land of health, mildness, and beauty; and that ignorance of the seasons has but too well confirmed the story of the incapacity of the soil with those few settlers who have not been fortunate in their agricultural speculations: but despising the *hue and cry* against the soil, and the accidental failure of two or three settlers, I shall not cease to raise my voice in strongly urging upon every one of my countrymen, both rich and poor, the benefits and pleasures of settling in a land of sun.

The horrible climate of England is such, as to which I would not transport my worst enemy, were he a convict under sentence of banishment from any other country. It is painful to see the sufferings which outdoor work inflicts upon our poorer fellow creatures during the rigours of winter; the knowledge of all their privations and miseries, at this season, would create pity in a heart of stone;* and as to dumb animals, it is painful to see the miserable looking sheep during their cruel exposure on the moors, where hundreds are frozen to death or buried in the

* The severity of winter is the cause of people being overcome with the heat of summer. The violence of the contrast *ages* the human frame.

snow. The cows are a little better off, as the Yorkshire farmers are forced to keep them close prisoners in the cowhouse for three months, with the only exception of an airing for five minutes daily, when they come out to drink at the frozen pool.

I am not one of those who, with a kind of canting caution, publish works on emigration, stating the advantages thereof to the intended settler or person wishing to emigrate, yet at the same time, with an inconsistency quite extraordinary, declare that it is not their wish to influence any body to take that step, least, perchance, accidental disappointment and misfortune falling to the lot of any individual thus influenced, might be charged to the authors of the books holding out the temptation, and they be cursed with the maledictions of the unfortunate. I avow it to be my wish to influence as many as I can to go and settle in Australia and Tasmania. Would to God I could persuade every soul in Great Britain, or at least every family to send out one son and one daughter to settle in those noble English colonies, which do not swarm with thousands of negro slaves as America does ; * and at the end of five or six years (for it requires at least that space of

* Mr. Woods gives a census of the number of negro slaves in the United States at two millions !!! " Woods' Illinois."

apprenticeship to become thoroughly acquainted with the seasons of a semitropical country), I will venture to predict, that ninety out of a hundred sons would be doing well, and that eighty out of a hundred daughters would be married, and mistresses of comfortable estates ; and that many of both sexes would be able, in a few years, to help some of their poor relatives in England to go out and settle near them ; or if their relatives were wealthy, tempt them out to travel in and enjoy the luxury of a country every way worthy the trouble of an Englishman to interest himself in. I have lived in, have felt, and now look back with pleasing regret to the times I spent in the vast woods and forests abroad, yea, the " howling wildernesses," as our poor timorous home-birds style them, their gigantic growth and magnificent scenery, the picturesque little patches of cultivation, the simple and easy process of eastern agriculture, the independent serenity and comfortable livelihood of the husbandman ; and I have since had ample opportunity to contrast it with the melancholy difference of the English farmer. What an expensive system for the master ! what slavery, sufferings, and poverty in the labourer !

I own myself a firm believer in the truth of the innumerable accounts of prosperity attending the exertions of a *steady* settler in Australia,

because the most conflicting authors on other subjects all agree in this; and I would challenge any settler who is now out there, provided he has given his estate a fair trial of six or seven years, to say he is not very much bettered in his circumstances and general comforts than he would have been had he remained like a hum-drum pusillanimous drone in England. A man must be either a blockhead or a profligate who fails to thrive in a fine climate, a country without taxes, and a land where cattle and sheep will increase of themselves, till they are counted as vermin.

It seems a most unreasonable expectation in young men, who emigrate to a warm climate, to think that they are to have exactly similar soil to that of a cold country, to pursue the same system of husbandry as that which obtains in England, to find all the conveniences of life in wild lands that they left in Europe, and are not to undergo several privations at first settling on their grants; and yet we do sometimes meet with examples of this impatience in settlers, who stumble on the wrong management of the soil on account of its being sandy, and not like the best in England, and who write such deplorable accounts of the sandy soils and bad water as is enough to make a cat laugh. People who cannot make up their minds to rough it for a year or two, are sure to turn every unexpected

discouraging circumstance into an irremediable misfortune, and exaggerate every trivial difficulty into an insurmountable obstacle.

As to water, all countries are subject to an occasional visitation of bad water. Here, in the West Riding of Yorkshire, noted for the most delicious water in England, I have known our supplies so much tainted during a dry summer, and at other times by the heavy rains, as both to smell and taste bad. And in Southern India, equally celebrated for fine water, I have, in some places, had very bad water to drink, and in others experienced a total want of it, and had to send my bullocks a great distance to fetch a supply. But were I a *settler* either in India or Australia, I should never give the water a thought, because it can be reached in any country, and of a good quality, by digging deep enough.

And as to the sandy soil of Australia, I very much doubt, whether the English system of husbandry proposed to be introduced there, is suited to it. Good crops are produced on farms in that country, where no system is pursued, and where the process of tillage is almost as primitive and simple as that of the Hindoos, to whom a meliorating succession of crops is utterly unknown. Now, although I do not object to a succession of crops, yet as the climate is a warm one, and the soil generally a light or sandy one,

I should think a medium course between the tillage of a hot and that of a cold country, would be the most reasonable. And the same arguments as are used in behalf of shallow ploughing in India, might be applicable to Australia. Dr. Buchanan* frequently attacks the Hindoo farmers for their shallow ploughing, "but it is by no means certain that deep ploughing would not be prejudicial in India. Dr. B. has at once condemned the Indian practice, taking for granted that the English way must be good for India, without entering into any consideration of the differences of light, temperature, atmosphere, seasons, &c., which may modify the vegetation, we know not how; and possibly from these and other causes, many of our farming practices would be very improper for India," and, for the very same reasons, improper for Australia.

On such lands, in the latter country, as, from their lightness or poor quality, English wheat will not thrive, maize, or Indian wheat may be cultivated; and the flour produced from the latter is, in my opinion, as good as that of the former; for my own part I prefer it. "In the sandy and barren *landes* of the south of France †

* Journey through Mysore, &c. By Dr. Buchanan.

† The Edinburgh Journal of Natural and Geographical Science, vol. i. p. 108.

so much Indian corn (maize) is grown, that the quantity exceeds the consumption of the country. Observation has proved, that sablonous earths agree better with the yellow seeded variety of the maize, and argillaceous soils with that whose seed is white; and it was a fact well known to Parmentier, that a barren soil best suited this plant. In a French work lately published, 'Voyage au Kentoucky,' it is decidedly stated that it delights most in new lands. In rich lands the corn grows into mere grass, and before it can be raised with success, they require to be made poor. It flourishes nowhere so well as in the plains at the foot of the Appenine Alps, on the fern tracks of the Pyrenees, and on the heaths of the *Landes*. The virgin soil of the barrens of North America, have been, from the same cause, found favourable to its growth." This short extract may afford a useful hint to those settlers who know not what to do with the sandy portions of their grants; and provided they fortunately crop the land at the proper season, they may at least be always sure of a supply of flour.

But I would wish to impress on the minds of the Australians the advantages of irrigation, and to advise every community of new settlers to accompany their labours of clearing with that of the formation of tanks to save water, and trenches to lead it on to their grounds; for, by

irrigation, the land may be kept in the highest state of fertility, and made capable of producing an uninterrupted succession of crops, without the necessity of fallows, or of introducing crops of inferior value. But without water (the best of all manures) the custom of growing successive crops of corn on the same land, noticed by several travellers, is a very bad one, and must eventually completely run it out.

I am persuaded there is nothing wanting in Australia but an intelligent mind, to cultivate the sandy soils to advantage.*

A WORD TO THE EDITORS OF THE AUSTRALIAN
PERIODICALS.

Having adverted, in a former part of this book, to the difficulty of procuring any of the Sydney newspapers in England, and especially of their scarcity and monopoly by one house in London, I here beg leave to call the attention of their Editors to the quality of their usual contents, and although I may not succeed in my recommendations of a better course with all, yet perhaps one or two may think it worth their while to bestir themselves in the improvement of their pages, and in procuring a greater variety of intelligence.

* Bishop Heber noticed in India a fine crop of *wheat* in a poor sandy soil, produced by irrigation. Heber's Journal, vol. i.

The Australian newspapers are extraordinarily meagre of almost every kind of intelligence which would be considered interesting in England; and that, too, in a country where a million of improvements, of every kind and form, are continually in progress. Were the editors to act on the plan of their contemporaries in Europe, they would employ agents or correspondents in every town or settlement around their coasts and in the interior, to keep up a regular intercourse by letter, to transmit information on the following subjects, viz. the thermometer, winds and weather; the state of the crops, and what husbandry business was in progress; state of the schools, and education; religion and morals; manners and state of society; population, whether increasing and improving, or the contrary; the Indians—a wide field for observation,—what advancement they make towards civilization; description of the towns and villages, their advantages of situation or disadvantages; whether any other situations and where, fit for the sites of other villages; buildings—their faults, and what improvements requisite; state of the public health, and what diseases; what staple, the trade or occupation of the several places; discoveries in natural history, such as geology, zoology, and botany; discoveries in geography and astronomy; whether any literary or scientific institutions, and

what; whether any, and state of the public library of the settlement or town (see the note), and whether any encouragement to the white native youth to spend their leisure hours in reading instead of drunkenness; state of the farms, the gardens, and orchards, and how much and what additions have been made or are in progress; what fruit trees and vegetables thrive best in the soil of the place; whether room for more settlers, and what the inducements are; occasional notices of prosperous settlers, and of reverses or failures, with the cause of the latter, omitting only the publication of real names; and any other news either of a particular or general nature.

If every correspondent at the several settlements throughout the territory were only to transmit one long report per month from each of their several stations, which reports might be permitted to go postage free, by the Local Government, they would produce an inexhaustible supply of materials for the periodical press, and that of a useful, interesting, and often gratifying nature.

But instead of thus rendering their columns the records of every thing that is interesting to their friends in Europe, and a fund of amusement and knowledge, they have frequently been the vehicles of party squabbles, or of reproaches directed against individuals in official situations

or their measures ; a sort of reading as uninteresting to the general reader as it is disagreeable, especially when no one else but themselves feel concerned in the matter so sorely dicussed. I have also observed, for some time back, that the Sydney Editors have not been backward in putting forth arguments to induce Government to abandon the " out-posts " of Australia, viz. the young colonies of Melville Island, Port Raffles or Essington, King George the Third Sound, and Western Port, which, although they inflicted a temporary injury on the old colony at their first establishment, yet, as they are firmly settled, and the first privations and difficulties overcome, it would be a matter of deep regret to give them up now. Melville Island is said to be unhealthy, but the other three places do not labour under any particular disadvantages, unless it was the want of plenty of fresh water at the latter, during the dry season ; and even this admitted of very simple and easy remedies, had they only been adopted.

Were these " out-posts " suffered to continue only thirty years, a generation would spring up accustomed to all their local inconveniences, or supposed inconveniences, as much as the Indians of the soil. A small population would construct small tanks, and as the former multiplied in numbers, they would of course, by

degrees, construct larger tanks. This is the way the parched plains of India must have been rendered habitable in the first ages of the world. Plantations of coffee, nutmegs, cinnamon, pepper, ginger, and other spices, also indigo, might be tried, and some would succeed. Maize, or Indian wheat, thrives in almost any soil if sandy, and having plenty of sun to mature it; and, in short, Eastern Australia would hereafter be amply compensated in an interchange of commodities with her own offspring colonies situated within the tropics, for the first thirty years' outlay.

These out-posts, situated at such very opposite points of the coast of an unexplored continent, were admirably adapted for expeditions to take their departure from, to penetrate the interior; and yet what have we done for science and geography? We have looked on with Dutchman-like apathy, or been frightened by the Indians! But to resume my first subject. I think that if the Sydney Editors would attend to the recommendations in this Chapter, their papers would find extensive patronage in England.

. Note.—On the subject of Public Libraries: every village and settlement in Australia should have a small public library. I write this feelingly, for I have, in common with many of my acquaintances abroad, felt the want of books severely in isolated stations. There are times when nothing can dispel ennui. A village library in Australia might be established

at a cheap rate, by subscriptions for the following works, viz. Constable's Miscellany, Duncan's Modern Traveller, Murray's Family Library, Valpy's Family Classical Library, Lardner's Cabinet Cyclopædia, The World in Miniature, and The Library of Entertaining and Useful Knowledge; also the following maps, The Cabinet Atlas, The Classical and Historical Atlas, Australia.

Two hundred pounds would purchase the whole of the above excellent selection, containing all that is amusing, instructive, or useful (of voyages, travels, history, biography, and the sciences) in English literature.

I do not recommend novels, tales of fiction, or poetry, as I consider time very ill employed in the perusal of such works.

If the same difficulty is experienced in Australia as in India, of procuring literary food, it is to be hoped that libraries will soon be established.

ON DISTINGUISHING-FLAGS FOR THE COLONIES.

An order has lately been issued at Bombay to prevent merchant vessels from wearing the Union Jack. It appears that the masters of country vessels, and of any ship or vessel belonging to any of his Majesty's subjects (excepting such as have letters of marque or reprisal, or are employed in his Majesty's service) wearing the flag, commonly described as the Union Jack, are to have the flag seized, and the name of the master so offending is to be given in to the Judge of his Majesty's High Court of Admiralty.*

In the event of circumstances occurring which might render it necessary to issue a similar

* *Vide Asiatic Journal*, vol. xxviii. p 96.

order to Australian vessels in the ports of Sydney, Hobart Town, &c. the utility of a colonial flag, with an appropriate device, has induced me to offer, with deference, a sketch of one at the end of this book. Plate 5.

There would be no impolicy in giving to each colony a separate coat of arms, and an appropriate distinguishing flag. There are many petty dependent states, with territories not so large as some of our colonies, and whose rank in the grades of power is not more respectable, that have flags. A flag might raise the respectability of a colony a step higher, without having any thing to do with independence, any more than the Honourable Company's flag, or the coats of arms of our old cities; and it would be received by the colonists as a token of prosperity and increasing importance in the British empire.

ON DISCONTINUING THE TRANSPORTATION OF
CONVICTS.

Should government discontinue sending convicts to Australia, so great would be the scarcity of labourers, and so urgent the necessity of having them, that it would drive the wealthy Australians to the only alternative of importing men on their own account of all colours and all religions from the various islands where men are easily procured and willing to work, such as the New Zealanders, Taheiteans, Sandwich

Islanders, Malays, Chinese, and even Americans! Thus in the course of years a pretty heterogeneous mixture of breeds and languages would spring up in England's very noblest colony, Australia, and defeat the wise intentions and undo what has been doing by the legislature for so many years, viz. the planting of an unmixed *white* Christian population in that country. The hardship to twenty-two thousand free settlers, therefore, by diverting the channel of transportation, or of diminishing the number of convicts by keeping them at home, would be illustrated and deeply to be regretted ~~some~~ years hence, when too late to be remedied. Besides, government possesses one easy method of pleasing the colonists and keeping them in good humour, which is, by sending them plenty of convicts.

Again,—to discontinue transporting convicts to that colony, would drive the free settlers to despair, and render their settlements not only useless, but their lives intolerably irksome and listless for want of labourers. I would humbly recommend government to pursue a course of conciliatory measures towards our penal colonies, and not to needlessly lay the foundation of any angry feelings, (which may be smothered for many years, but must get vent at some time or other when the question of separation comes

to be agitated) by depriving them of labourers, which would perpetuate an implacable hatred against England. It is not advancing too much to say, that unless we do pursue conciliatory and desirable measures, the most deadly hatred will be cherished by the people of that country, and it is certain that the children will suck in this sentiment with their mother's milk; and yet we cannot prevent them from becoming a nation whose territory will be more extensive than that of the greatest power in Europe, and whose people, it is to be feared, will not all be of the British stock, if we discontinue sending them convicts.

There is now, a tolerably numerous white population, with which the few black tribes at present in existence, will be so amalgamated (if I may be allowed the expression) in the course of time, as to entirely disappear, at the rate they are known to diminish; therefore, Eastern Australia will be the same to an Englishman as the British islands, but with the additional advantages of a serene sky, a milder temperature, and a country of romantic grandeur; for all accounts agree in the sublime magnificence of the mountain scenery, the diversity of surface and soil, the grandeur and capacity of its sea-ports, and the intermixture of tropical and temperate climates and pro-

ductions ; so that Eastern Australia is, without any exaggeration or stretch of truth, the Paradise of the southern hemisphere.

To the Australians, I would say, Let no dearth of labourers, let no consideration whatever, induce you to import strangers of all languages, colours, and creeds. I conjure you to drop the idea ; for could you but contrast by ocular experience the mongrel breed swarming in the streets of an American town* with the beautiful female and handsome male *white* population of England, you would ; and you would also pass a severe law against the possible clandestine introduction of such races : for I repeat, that in a few years you may be able to boast of an entirely white population by the disappearance of your few coloured natives, whose numbers, compared to that of the whites, is about as 300 is to 20,000. Speaking as an Australian of the year two thousand, my boast should be, “ we are of a pure white stock ; we are no mongrels.” I recommend you, Australians, to trust in the wisdom and justice of Government, whom it is to be hoped will continue to you the necessary supplies of white labourers, most of whom are ingenious men and beautiful women, from the offspring of

* One striking feature in the street population of New York is the number of blacks ; I believe twenty thousand, not slaves.

some of whom, your population may grow into a nation, as handsome, as enlightened, and as illustrious as that of Great Britain. And I add, the sooner the better for both countries.*

It is a circumstance much to be regretted, that Anglicania possesses no sea-ports, unless Port Lincoln at its eastern extremity, and King George's Sound and Swan River on its south and western extremities, be admitted as such; but the size and advantages of these three ports are so inferior when compared to the numerous and magnificent harbours along the whole coast of eastern Australia, that it would seem to forbid any sanguine hope of Anglicania ever becoming a maritime colony or nation. Perhaps an exception may be made in favour of Swan River, which it must be allowed is more advantageously situated with respect to Indian and European intercourse than Eastern Australia; and it is to be hoped that means will be employed, and money not spared, in accomplishing the desirable task of deepening the

* If England drives a greater trade now, with the United States, than she did when those states were convict colonies, is it not a powerful argument in favour of hastening the increase of population and independence of Australia?

I am not one of those who view the future independence of this colony as an evil: such an event every Christian and freeman should, on the contrary, hail as a desirable and pleasing result. Britain was a great and favoured nation before she possessed colonies, and so she will be when she casts them off, to shift for themselves.

entrance of the river, so as to admit the largest vessels.

I earnestly hope that the plan for employing convicts on Dartmoor will not be persisted in, whilst there are two thousand unemployed weavers in Yorkshire and Lancashire in the greatest distress within a circle of twenty-five miles around my residence, who would be glad even to work on the roads, could they get employment, and who might be located in small colonies in the south of England with benefit to themselves and advantage to the country. One great evil which I see around me, is that most of the weavers having several children, bring them all up to the loom or the factory, which is in fact multiplying trouble and distress for those who will succeed them; and when I advise a poor weaver to send his sons to sea or put them to other trades, he replies, "He would be glad to do so, but how is it to be done?" Poverty is the hindrance, and as weavers thus increase in numbers, some measure is desirable to prevent this increase, by putting their children to other trades.

In fact, emigration is the best measure, and I cannot come to any other conclusion, than that emigration and the transportation of convicts is in more ways than one, a great benefit to England.

As there are various statements abroad, of

the numbers of the population in Australia, I have endeavoured to ascertain the true amount; and the following details will I think be near it.

Mr. Huskisson in the House of Commons, in April, 1828, said the total population in 1827 was 49,000, of whom only 18,000 were free. And the "Australian," a Sydney newspaper, of January, 1828, says, "An abstract of the number of male and female prisoners who arrived in the colony in the course of last year has just been made up,—the number is, of males, 2801; of females, 502—total 3,303."

The average number of convicts imported into Australia, being 3000 per annum for Sydney, and 2000 per annum for Hobart Town, would give 6000 for the years 1828 and 1829 for the former place, and 4000 for the latter place, total 10,000. And the average number of free settlers being 1000 per annum for each colony, would give a total of 4000 for the years 1828 and 1829, altogether an increase to the population of 14,000 adults; which, with the number of births in that country exceeding the number of deaths, must render the amount of the population on the 1st day of January, 1830, about 63,000. But I believe this number to be very much under the mark.

ON INSTITUTING COLONIAL NOBILITY.

It has occurred to me that great satisfaction might be spread abroad in our colonies by sending them titles and honours, dispensing these marks of the sovereign's approbation to such deserving colonists as might, from time to time, be pointed out to the home government for such favour, by the local authorities of each colony; a measure which it is well known is pursued with success in India; and justice and impartiality seems to demand its introduction into the other dependencies of Great Britain. I was myself witness to the great pleasure and satisfaction diffused in the Madras army, when first some of its senior officers were honoured with the companionships of the noble military order, and when others were created baronets! Honours and promotions, which until then had never been dispensed to any others than officers of his Majesty's army.

The Governor-General of British India dispenses promotion to wealthy natives at Calcutta or elsewhere, in the name of his sovereign, by bestowing the titles of Raja, Bahauder, &c., and by presenting them with the insignia or honorary dress, a khelhat or mantle.

I therefore humbly offer the following scheme, for the creation of titles and for granting patents of nobility in Canada, the West Indies,

South Africa, and Australia, for the consideration of government.

1. The Governor-General, Governor, Lieut.-Governor, or other chief officer of each colony should be the fountain of honour in the name of his sovereign, and should confer the titles and honours in the same mode as the Governor-General of India creates rajahs.

2. A herald office should be established at the several seats of government, for the registration of titles and coats of arms.

3. The sums annually collected in fees should be applied exclusively to the purposes of education of the children of the poor.

4. The qualifications in every individual who aspires to promotion should be learning, philanthropic acts, and wealth ; or the performance of some great public act of merit.

5. Only native colonists, *i. e.* men born and permanently settled in the colonies, should be entitled to be ennobled abroad. Difference of religion should be no obstacle to promotion. And democrats should especially be endeavoured to be gained over to government by the offer of rank.

6. The privileges which the British nobility enjoy in Britain should be modified and altered for the colonial nobility, so as to suit their several countries.

7. The expenses of creation, fees of patents, &c. should be moderate ; and the introduction

of the titles of knight, baronet, baron, earl or count, marquis, duke, and prince, should be regulated by a scale of periods of time.

8. The distinction between British and colonial nobility should be plainly described in the patents, thus, Sir A— B—, Bart., of Paramatta, in Eastern Australia; Baron C— D—, Lord of Maria Island, in Tasmania; Lord E— F—, Marquis of Quebec, in Canada; His Grace G—, Duke of Kaapstad,* in South Africa; His Highness H—, Prince of Port Royal, in Jamaica, &c. &c.

9. Colonial nobility should be promoted from junior to senior titles in the usual mode of army gradation of rank, as is the custom in Europe, but only in colonial titles and rank.

In the course of a number of years it may be to the interest of Government to mark with its especial approbation, the useful services of any individuals of a certain other class of subjects in the southern hemisphere, by rewarding them with promotion (provided they possess the necessary qualifications) whenever their loyalty, and influence with the mob, may have been instrumental in checking a spirit of rebellion. Especially those who have served as magistrates.

10. The possession of 1000 acres of land,

* Kaapstad, the Dutch word for Cape Town.

or 100*l.* per annum clear income in the colony, to entitle a man to be styled esquire.* The possession of 3000 acres, or 300*l.* per annum, to entitle a man to be knighted. 600*l.* per annum or 6000 acres, or a village of thirty cottages and thirty tenants, to entitle the owner to be a baronet. 1000*l.* a year or 10,000 acres, or a town containing one hundred inhabited houses, to entitle the owner to the rank of baron, earl, or count. 10,000*l.* per annum or 100,000 acres, or three towns containing altogether 500 families, to entitle the owner to be a marquis. 20,000*l.* a year, or a million of acres, or ten towns, containing altogether 5000 families, to entitle the owner to be a duke.

11. For the first five years after the institution of colonial nobility, there should be only one baron, two baronets, four knights, and a certain number of esquires created. In the succeeding ten years, one marquis, two earls, ten barons, ten baronets, &c. should be created. And in the succeeding ten years from the fifteenth year, one duke might be created, and all the other titles respectively increased in number; continuing this system for one hundred years, by which period, each colony would reckon enough native nobility and gentry of its

* In England the sum is £500 per annum; but allowance should be made for the low value of property in the colonies.

own, to form for each, an enlightened parliament consisting of a House of Lords and a House of Commons.

From the foregoing sketch of the scheme, it will be seen that the object is to gradually raise up a class of inhabitants, who will personally and individually feel the obligation of being learned and polite; and who, receiving honours from Government, would necessarily stand by Government in times of difficulty, and be the link between it and the population.

How absurd, will my friends say, to recommend granting honours to men who are not natives of Great Britain, and to men at a penal colony too! Absurd as it may appear, had we sent out titles and promotion to the Americans one hundred years ago instead of taxes, a different order of things might have obtained now; and at least that nation would not have cherished that rooted and implacable spirit of spite and malice, which is frequently seen in the acts of their government, as well as of private individuals during peace,* and which feeling is more especially evident during war, which is carried on with such a revengeful temper, that their officers do not scruple to

* Instance, the American Tariff,—and a recent unprincipled rescue of an English defaulter at New York, by means of a misuse of the Habeas Corpus; a shameful breach of justice.

seduce our soldiers and seamen into their service; and whose rancorous animosity and deadly hatred amounts to the wish to exterminate us. I should not have raked up this circumstance, but that I hope the reference may be of use towards producing a different result with the Australian colonies; the embryo of a kingdom the growth of which cannot now be prevented, whose existence will be not merely an honour, but a greater honour to Britain than is America; and whose friendship and alliance will be of the greatest advantage to England, and her interest to cherish.

There can be no more impropriety in creating colonial nobility, and bestowing titles on natives of our colonies, than there is in a foreign prince bestowing foreign titles on Englishmen, such as Duke of Bronte, &c., &c., or in our own Sovereign creating a Baron of Seringapatam (Lord Harris), or an Earl of Arracan (Lord Amherst), &c., &c.

And as to the wealthy inhabitants of Eastern Australia, it would attach them to the Local Government of the colony, as well as to the native land of their forefathers, that land which at present claims their allegiance, and protects them during war. It would be an example held out to them, of how loyalty and good conduct might be distinguished; and, in a prospective view, looking to the changes that may take

place in that colony in times to come, when perhaps the population may force a declaration of independence ; but by there being a large body of nobility and gentry, and the population much influenced by them, the new state would be more likely to rise into a monarchy than sink into a republic, from so many people being attached to old institutions, old titles, and sharing either the society or patronage of men of courteous manners, enlightened minds, and the splendours of rank.

It would be a doctrine replete with injustice, and a hard sentence to say, that a native colonist, let him be ever so wealthy and philanthropic, ever so eminent in science, or one who had rendered ever so signal a service to the state or to the community, is not to be promoted, rewarded, or honoured, because he is a native colonist. Possibly Spain might have been in possession of her colonies at this day, had she conferred titles and honours on some of her best and most influential native colonists, instead of sending over numbers of old Spanish nobles to tyrannize and trample on the people, with their detestable pride, superciliousness, and avarice ; at all events, there would not have ensued that implacable feeling between her and her colonies at the period of their separation.

My advice is, to let the colonies have titled

men among them, natives of their own soil, and of whom they would be proud, at the same time grateful to the Government of the mother country for the impartiality with which it distributed her honours and rewards, the latter shewing that it is neither distance nor name which shuts out of her sight the meritorious among her numerous and various tribes of subjects: and by creating monarchical feelings and the love of rank, prevent republican feelings from first taking root.

If the institution I am here advocating had been commenced and followed up in the United States a century ago, it might now have been a monarchy, and a land of learning and politeness, instead of a republic bearing a mortal hatred to the ancient institutions of old Europe; a power with whom it is doubtful whether England will ever enjoy a sincere relationship. It is therefore not a trifling question, whether England shall have, two centuries hence, a deadly republican foe to deal with in the southern hemisphere, or an Australian monarchy, with titled and liberal minded statesmen, whose education and style of living will assimilate them to the nobility and gentry of England.

The monarchical form of government is the most ancient of all forms, the most natural, the most proper to maintain peace and concord; and, as Plato observes, is formed upon the

model of paternal authority, and of that gentle and moderate dominion, which fathers exercise over their families.* Under a monarchy there is a continual stimulus to men of every degree, as honours are open to all, and the greatest merit generally meets with its reward. But I consider a republic a sort of stagnated state of society; and the unwise law which decrees the equal division of all property among children, as destructive of every sentiment which spurs a man on to attain to eminence and distinction; for where all are equal, none have a character to support. I believe there are few men, either in England or America, who do not wish to raise their families to consequence, and transmit their name, together with their large estates, by medium of eldest sons, to the latest posterity; it is the bias of nature.

The patrons and promoters of the arts and sciences are those whose high birth obliges them to live in splendour. It is this class who require magnificent mansions and equipages, and indirectly give employment to thousands of their fellow creatures in the invention and manufacture of luxuries. Their eldest sons inherit and keep up this splendour and unfaul-

* The Roman provinces, under the Republic, were subjected to every species of oppression! So much for the boasted sovereignty of the people.

ing employment of the arts. But how is it in a nation where the law divides property equally among children? The sons of a rich man will descend to the middle class, or if there be many sons they must all be poor: the park and mansion being too large for one individual, must be cut up piecemeal: none have a name to sustain, they are therefore sunk into a humble sphere, and a community thus formed must remain stationary for ever.

Where all are equal, and the poor claim an equality with the rich, (which by the bye is both unnatural and contrary to the tenets of the Christian Scriptures, which enforces humility from inferiors to superiors), the poor will be insolent, and the rich will often be vulgar: this is the reason why those pleasing courteous manners, which reign throughout society in a monarchy, are superseded in a republic by rough familiarity and affected equality. I spent a twelvemonth in France under its republican government, and I was disgusted with the eternally occurring word *Citoyen* (citizen) bandied about with a coarseness which rendered all alike vulgar and *grossiere*: many respectable people regretted the change of manners. On the other hand, how many fine castles and magnificent mansions were either standing empty, or tenanted by low bred families. Splendour was annihilated! alas, how fallen was the

grandeur of that ancient nation with the abolition of its noblesse.

Writers of republican sentiments may write and reason until they are tired, but they can never prove that the arts and sciences can flourish equally well in a nation where there is no call for luxuries, as in one where high rank and splendour is, as it were, always enjoying them, and never satiated.

It is an observation of some travellers, that the North American republicans are secretly fond of titles, and in corroboration of which, Fearon quotes several glaring proofs. It is my humble opinion that the government of the United States could not do a better thing towards stirring up emulation to arrive at distinction, and thereby raise their country to an equal rank with Great Britain, than by creating a noblesse; rewarding such of their citizens with titles, as deserve distinction. A generous and enlightened nobility are the greatest ornaments to a nation.

Note.—I take this opportunity of introducing the following observations, viz. that the present temporary distress among tradesmen in England is not confined to this country alone, and cannot, with any fairness, be laid to the charge of Government, or to the form of Government; for a neighbour of mine, a short time back, received a letter from a relative in America, which gave very melancholy accounts of the state of trade in that country.

It appears to me that the wealthy in all countries do not do their duty to their fellow creatures so well as they might,

by not employing their riches sufficiently, in erecting churches, bridges, mansions, and other buildings ; in laying out parks, in enclosing, cultivating, and planting wastes ; in sinking mines ; in digging canals or forming lakes for pleasure ; in cutting and constructing new roads, and, in fact, using their money for the constant employment of the poor, instead of hoarding it, and keeping it idle. They are commanded by the Almighty to feed the poor, without expecting any profitable return, and the poor of the United Kingdoms might be rendered industrious, happy, and have plenty of work, if the rich were more generally animated with the spirit of beautifying their country, and if they substituted an active for an indolent life. But, let it be recollected, that if the poor were ever so well employed now, it would not keep down the increase of population ; and when all was done that could be done in England and Ireland, the number of unemployed poor would be ten times greater than it is at present, which must satisfy every body that the best remedy for the present, and every future distress, is emigration to our colonies.

The discontented portion of the nation seem now disposed to erect the *overgrown landed estates* of the wealthy into a national grievance ! I do not pretend to be a judge of the subject, but perhaps it might avert some future revolution and a forcible new division of land, if the liberty of the subject in the United Kingdoms were so far abridged as that an Act of Parliament were passed, specifying the extent or number of acres which each rank might own, beyond which none should exceed ; and those possessed of more acres than the law allowed, should be obliged to sell all above the limited number. At the same time, there should be no obligation on any individual to be owner of land if he did not choose it.

Suppose, for instance, our good King consented, for the good of his country, to be restricted to the possession of one hundred thousand acres of land, a Prince of the blood-royal to twenty thousand acres, a Duke restricted to ten thousand acres, a Marquis five thousand, an Earl four thousand, a Baron three thousand, a Baronet two thousand, a Knight, and all below that rank, one thousand acres ; and that this

law should have nothing to do with houses, or any other kind of property, but be exclusively a Land Law, for the prevention of overgrown landed estates and to hinder men from buying up land all over the country. The great landowners, it is true, would perhaps be obliged to sell some thousands of acres; but then they might be at liberty to have as much money as they pleased vested in the public funds, or in any other property, and no revolutionists would quarrel with them on that point. This law should emanate from the House of Peers, and the House of Commons would not perhaps object to it.

A Land law of this nature would lower land rents, which although it would prove a great present loss to the owners, would be counterbalanced by the consolatory reflection, that their landed estates would be for ever secured to their heirs and descendants, by having done away with the "rock of offence," the monopoly in land, which some writers on the state of the nation say, will provoke a forced new division, in the event of any great political convulsion.

This law would tend to fix a maximum for land rents, which rents should be regulated by the price of land in the colonies. The prices of land in America and in the English colonies, not situated in towns or villages, vary from 2*s.* 6*d.* to 5*s.* per acre, according to its quality; therefore, the rent of an acre of land in any part of the United Kingdoms, not situated in a town or village, should not exceed from 2*s.* 6*d.* to 5*s.* according to its quality: whereas the present scale of rents is from £1 to £3 per acre! It may be asked, what have the colonies to do with the question? I answer, that you, who are great landowners, ought not to expect me to pay you a greater sum for the mere *hire* of an acre of land, than what I can actually *purchase* an acre for in an English colony, and much better land too; for nearly all the land in the United Kingdoms is worn out, and wants an enormous quantity of manure to fertilise it, manure or the cost of making it, being at the same time nearly as dear as gold. And further, that if you will not fix the maximum of your rent at 5*s.* per acre, or £50 for two hundred acres, you must stand by the consequences, and see

your farms thrown upon your hands, and you may give them to paupers and get nothing.

You may start with astonishment and exclaim, what ! compare landed property in the colonies with that of England ! I answer, yes !—and those who have resided near the sun and know the blessedness of a milder climate, will say with me, “ I would sooner have one acre in a warm climate than one hundred acres in England.” You will say that the emigrant has to clear his land in the colonies at a considerable expense, whereas the farms at home are ready cleared and fenced to his hands. This is true, but he would have to pay in various taxes at home, much more than the cost of clearing a colonial estate.* You may also say, that farms at home have good farm-houses and other buildings upon them, which would sink another considerable sum in erecting in the colonies ; to which I reply, that as I have only hinted at the rent of land and not houses, I should recommend that English farm-houses be rented at a separate rent from that of the land belonging to them. It is not property in houses that the discontented fight against, but a monopoly of land.

The avarice of the great land owners in having exacted such high rents, must, in the usual course of nature, meet with a re-action, or I should say, that what they have squeezed from the farmers they will have to disgorge. They certainly have no present plea for keeping up high rents, for they cannot be in want of money, not even to keep up the style of high birth, for every article of subsistence, every manufacture, nay, even every luxury is now procurable at such low prices, that it is nearly a losing concern to every profession, tradesman and artizan.

ON THE FORMATION OF TANKS IN AUSTRALIA.

The following few general observations on tanks in India, may not be altogether without

* The vicinity of markets in England is no advantage to the farmers, because they lose by their business.

their use, to those of the Australian public who are disposed to introduce this kind of remedy for a dry climate.*

I shall divide tanks into three orders; as although they are of innumerable shapes and sizes, they may all be included in one or other of these three.

1st. The village, or pagoda tank.

2d. The farm tank, to irrigate fields of grain.

3d. The great tank, which supplies water to a town or large portion of land.

The first and most common kind, namely, village tanks, are almost always square, being regular excavations made by the community, or some wealthy and benevolent individual; and generally about twelve feet deep. The earth is thrown up all round (but not immediate on the edge of the tank, as it would otherwise cause it to appear much deeper than it really is) and gently sloped off to the surrounding surface of the plain: the interior sides slope gently down to the bottom.

The slight eminence formed by the earth round the tank, is of infinite use to travellers, it being always dry in the wet season; and with the usual ornament of a small circular grove of

* When the rare occurrence of a dry summer happens in England also, farms and gardens are burnt up for want of the Indian advantage of tanks.

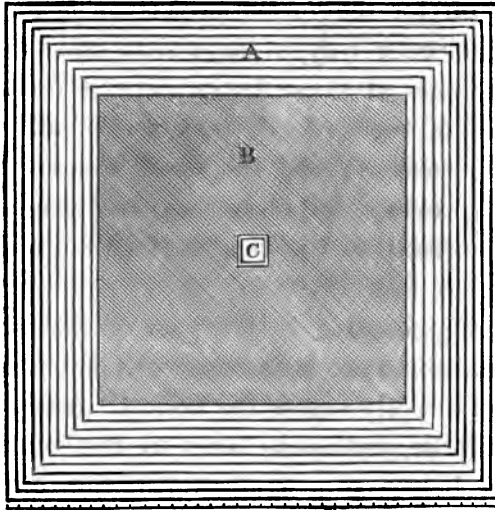
shady trees and a stone shed, (choultry), is a far more delightful halting place for the traveller and lover of nature, than the smoky, gloomy, glass-windowed prison-like rooms of an English inn. The choultry and grove generally stand close to the tank.

The size of village and pagoda tanks, varies from forty to two hundred yards square, and I believe is seldom less than forty. Each side is of the same length, so that a tank the side of which is forty yards long, would extend over a superficies of sixteen hundred square yards, and contain a considerable body of water. Towns and villages, according to the extent of their population, have from one to a dozen or more of these square tanks within them, and a large one or several small ones just outside; and many are moreover finished with handsome hewn stone steps all round from the top to the bottom, as represented in the cut, figure 1, whenever granite, ironclay-stone, or sandstone is procurable; especially the square tanks of pagodas (Hindoo temples of worship) which are generally very beautiful sheets of water, ornamented with a fantastically shaped rock, or a small stone temple in the middle. And daily a score of beautiful women may be seen bathing, or laving their vestments in the warm and enchanting element, amidst their respectable fathers and brothers; and this too, with a de-

cency and purity which ought not to give offence even to our more fastidious country-women.

FIGURE I.

GROUND PLAN OF A VILLAGE TANK.



40 Yards.

- A. Steps all round.
- B. Bottom of the tank.
- C. Ornamental temple in the middle.

The second kind, or farm tanks, are universally situated outside the villages, and frequently at some distance from them; but as the purposes for which they are designed, are quite different from that of the small square tanks, (which are excavations) so is their construction and dimensions.

A depression in the surface of the country, a

large hollow in the midst of an extensive and rather undulating plain, or frequently the opening out of a small ravine between two low ridges, through which a small rill steals almost unperceived through the bushes, are the scites fixed on for the formation of the *bund* (dyke, bank, or causeway) of large farm tanks; and as the shapes of these tanks depend on the localities of the ground, they are of all shapes and dimensions; and the *bunds* also are as frequently curved or circuitous, as straight, and often extend to the length of half a mile or a mile.

Having found a hollow part of the estate or district, the dyke is to be formed of earth, and carried directly across the hollow, nearly about the middle, from one side to the other; its height being proportionate to the expected quantity of water and contiguous land, varying from twenty to fifty feet from the bottom of the pond at the middle; and its width at top throughout its whole length being in proportion to its size from fifteen to twenty or thirty feet, and sloping outwards on both sides towards the bottom. The top of the dyke is level and generally serves as a road.

These tanks have universally a sluice (which the square tanks have not) at the foot of the dyke of each, near the middle, formed of strong timber and stone, by which any specific quan-

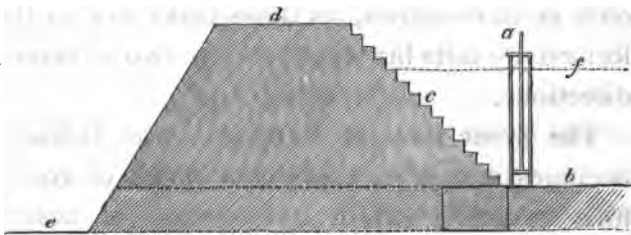
tity of water can be given daily to the fields. The tank occupies one side of the dyke and the fields the other, and the latter are always a little lower than the bottom of the former.

Where stone is procurable, the sides of the bund are usually faced with it, either in rough blocks or hewn square, and especially that next the water, which is frequently formed into steps from top to bottom the whole length of the bund. There are also one or two overfalls near the top of the bund, when the tank is very large, that the superfluous water may always be running off and not rise above the bund.

As the *excavating* is the only expensive operation attending a square tank, so the formation of a *bund* is the only expense of a farm-tank which requires no excavation, the hollow being already formed by nature.

FIGURE II.

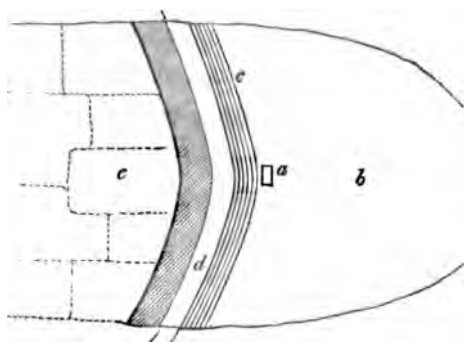
SECTION OF THE DYKE OF A FARM TANK.



- a. The sluice.
- b. Bottom of the tank.
- c. Steps.
- d. Top of the dyke, twenty feet wide, used as a road.
- e. The fields.
- f. Height of the water.

FIGURE III.

GROUND PLAN OF THE SAME.



- a.* The sluice.
- b.* The tank.
- c.* Steps.
- d.* Road along the top of the dyke, half a mile in length and twenty feet broad.
- e.* The fields.

The third kind of tanks are of that immense extent that they are seldomer formed, and require a numerous population and great wealth for their construction. Fit situations do not offer in all countries, as these tanks are partly formed by hills branching off in two different directions.

The great tank at Derrijah, near Bellary, occupies a bay, formed by a range of rocky hills branching off in two ranges, at nearly right angular directions. Its bund is exactly one mile in length, and extends from the base of one range of hills, directly across the valley or bay, in a straight line to the base of the

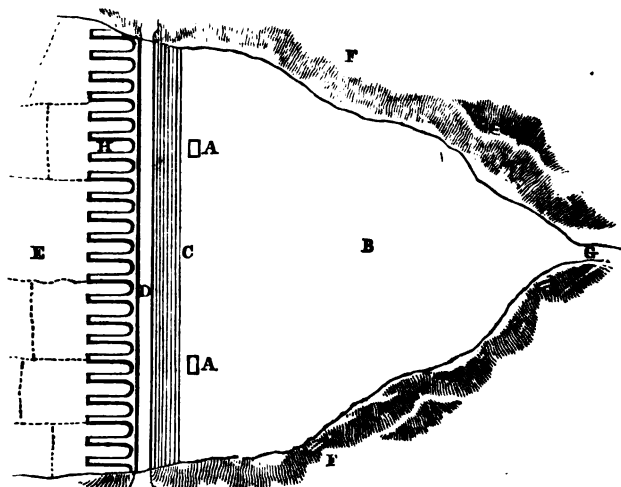
other range, and it has a large sluice near the middle. This immense rampart, which shuts in the water that descends from these hills in the wet season, is built with stones and earth, and faced on the sides with stone; that next the water being steps.

This artificial lake is between three and four miles in circuit, and is the most beautiful sheet of water I ever sailed on in India.

I was informed, while abroad, of another stupendous work then in progress, in central India (I believe, but I have forgotten the place), by command of a native prince, which, although I have not seen, I can here give a sketch of, as it was described to me. (Fig. 4.) The bund is similar to a bridge lying on its side; it was being constructed of masonry, and on a scale of such magnitude, that it would possess powers of resistance that must withstand almost a sea of water. I do not recollect what number of arches (buttresses) it was to have, but if the dyke is one mile in length, the breadth of each buttress or pier be twelve feet, and span of each arch be seventy feet, it would require about sixty-four arches. The height of the bund, and the length of each pier, I have also forgotten, but should suppose the latter to be about sixty feet.

FIGURE IV.

GROUND PLAN OF THE DYKE OF AN IMMENSE TANK, FORMED BETWEEN
TWO RANGES OF HILLS.



- A. Sluices.
- B. The tank.
- C. Steps.
- D. Road along the the dyke.
- E. Fields.
- F. Ranges of hills.
- G. A rill of water.
- H. Buttresses or piers.

In conclusion, if the Australians adopt tanks, they will be able to irrigate their gardens by means of small channels, about six inches deep and eight inches wide, cut in the surface of the ground, as at Madras and elsewhere in India, giving as much water to each bed as the trees or crops of vegetables may require, or laying any entirely under water, the walks and paths

being about four inches above the beds; and until they adopt this method of gardening they may go on complaining to little purpose, of the drought and the hot winds. Wells are also dug in gardens, but they require some simple machinery to raise the water.

APPENDIX.

A.

BREAK IN THE MOUNTAINS IN EASTERN AUSTRALIA ABOUT
LATITUDE 21.

A REMARKABLE similarity of topographical features occurs in Southern India on the Malabar coast, nearly opposite Paniany (Lat. $10^{\circ} 44' N.$)

I had heard, while in India, an indistinct account of there being a break in the immense range of mountains called the Western Ghauts, and that it was possible to travel from Madras quite across the Peninsula to the Malabar coast without being obliged to go over these mountains, the altitude of which is between four and five thousand feet. I felt very anxious to ascertain the truth of this report; and being at

Madras in 1817, when my corps was on the Malabar coast, I thought it a favourable opportunity of rejoining it by this route if such existed; and having obtained permission from head quarters, I travelled to Paulghaut (Pallighautcherry) a fort situated in the gorge of this identical gap in the mountains, the only opening in a line of seven hundred miles in extent from north to south. Continuing my journey from Paulghaut, I found the level of the country in the opening, to be as low as that which I had passed through, and the opening was a perfect level of sixteen miles in width, from the immense cliffs of the northern end of the range, to its resumed cliffs at the southern end; the space between being occupied by thick jungle swarming with wild elephants. (This opening or break, is a very different thing from what is called a *Pass*, which latter is often nearly as high as the mountains themselves.) I also noticed a small stream which bent its course westward, from the Coimbatore country in the interior, through the whole of this extraordinary opening.

Continuing my route parallel with the stream, I found it increased in size until it debouched into the sea at Paniany, where it forms a very noble sheet of water and a bar harbour, in which were several patamars and, as well as I can now recollect, a small brig. It is proper

to mention, that I travelled a level country all the way from Madras *viâ* Wandiwash, Trincomalee, Tiaghur, Salem or Shellem, Coimbatore, and Paulghaut to Paniany; and that although the interior may have an inperceptible rise, yet I did not pass over any high hills, but only through a long valley which extends across the peninsula in the Baramahl.

I think the similarity of this break in the stupendous mountains of Malabar, with P. P. King's break in the ghauts of Eastern Australia, is so striking, that we may be quite certain of finding a navigable river (but perhaps not of sufficient depth for large vessels) from that part of the coast, say the neighbourhood of Cape Upstart, to a considerable distance in the interior.

The distance of the Malabar mountains is seldom more than sixty miles, commonly about forty, and they are visible from the sea. Their altitude is sufficiently great to prevent the body of clouds from passing over them, and accordingly the alternate N. E. and S. W. winds occasions a rainy season on their windward side only. These fine mountains are covered with stately forests from which a great deal of teak is procured for naval purposes and floated down the Paniany river to the sea. All the great rivers of Southern India (Cavery, Khristna, &c.) have their sources in the upper table land, and uni-

versally decline to the east ; but the plain country of Coimbatore is an exception, as it produces the only river from the interior which disembogues itself on the Malabar coast.

B.

Observations on the South Coast of Australia with extracts from Labillardiere's Voyage in search of De la Prouse.

“ *December 17th, 1792.*—This day a boat was sent to the main land (near Cape le Grand) in quest of Citizen Riche. This naturalist, enraptured with the riches and novelty of all the productions of this region, had doubtless been so absorbed in admiration of them, that he had lost his way, and had not yet returned to the rendezvous or landing-place.

“ *18th.*—At dawn of day, two parties set off in search, one towards the north and the other towards the north-west. Directing our progress by the compass, we had proceeded about five miles across sandy plains, when we arrived in a very narrow bottom, where the verdure of the plants formed a pleasing contrast with the dreary places we had traversed, and they grew *in a very rich soil*. We here found some hollows which afforded us a little fresh water.

“ At the end of four hours quick walking, we

arrived on the banks of a great lake which communicated with the sea. The natives had recently made fires in many places which we passed. We saw no kangaroos; but their excrements being every where in great abundance, convinced us that this animal has multiplied greatly on this coast. We observed in the sand the marks of a cloven hoof, above three inches in breadth, which, with other corroborating circumstances, leaves no doubt that this region is inhabited by animals much larger than a kangaroo.

“The lake extends a great way into the country. Some of the other party came to our rendezvous to acquaint us that they had observed on the edge of the lake, towards the part farthest from the sea, the prints of shoes; and the marks of naked feet gave grounds for apprehending that Riche had been dragged by the Indians into the interior of the country.

“We returned towards the landing-place, lamenting the fate of our unfortunate messmate, when we met one of those who had been left in charge of the boat, who said that he was still alive, and that he had just arrived. He was extenuated with hunger and fatigue, having been lost above fifty-four hours with no other food than some bits of biscuit. Riche told us that near the fire which we had found still burning, there was a *little rill of fresh water* where he

quenched his thirst and passed the night. The Indians always fled when he advanced towards them. He had carried for two days a numerous collection of very interesting productions, but was obliged to abandon them on the third day from exhaustion. He only saw some cassowaries (emues) and kangaroos of the large species."

Notwithstanding the repeated exclamations against the aridity and sandiness of this coast, the author of the above acknowledges the finding of a *bottom* containing a very rich soil in which grew plants of a pleasing verdure at the short distance of only five miles from the sea-shore. Then what might not the country be at a greater distance in the interior? It is well known, that the air near the sea-coast in warm latitudes is so impregnated with saline moisture that vegetation generally presents a stunted appearance, in many places approaching to barrenness. What was there to prevent the members of this expedition from forming an exploring party which might have landed, well provided with provisions, have advanced one hundred miles in a direct line into the interior, and then returned, as the whole jaunt would but have occupied the short space of ten days. They would then have discovered whether it was so steril a land as it is represented (probably unjustly) to be, and whether

more than one rill of fresh water did not exist thereabouts.

I have a presentiment that the said "*bottom* of very rich soil" near the coast, will be found to be (as "an out-post or advanced guard of an army") the fore patch of a very rich back country. At all events, the numerous kangaroos hereabouts are a proof of fertility of some kind somewhere in the neighbourhood.

There was a want of a few of our hardy sporting officers of the Madras army for an excursion of the above nature, who would have scorned the heat of the climate and the so much dreaded fatigue and danger. I do not wish to insinuate any thing against the author, M. Labillardiere, but I must say that several expeditions, conducted by foreigners, have gained very little for the science of geography; and until exploring parties for land can be organized on board the ships of an expedition, the European world must remain in ignorance of the interior of Australia, Borneo, Papua or New Guinea, New Caledonia, and many other interesting islands.

M. Labillardiere says, respecting the extraordinary bank along the south coast, "I am inclined to believe that this interruption of *mountains*, through so great an extent, is the work of the waters, which appear to have undermined the strata, making them fall into the sea, where they form a rampart of cliffs, which

renders this coast inaccessible. We observed little slopes, which they had formed in falling down, but which it would have been very difficult to climb.

“ *December 29th, 1792.* After passing an interval of low coast, sailing towards the Bight Head, it re-assumed the form of a rampart, like that which we had already coasted, but with this difference, that its upper part rose by a gentle elevation into the interior country. We also observed some shrubs, which did not seem to be in so suffering a state as those hitherto seen along this coast.

“ Being opposed by boisterous easterly winds, the expedition stood off from the coast, and steered for Cape Dieman, January 5th, 1793. At four o'clock no land could be seen from the mast head. The lead was hove every two hours, and each time it was found that the depth increased two or three fathoms, insensibly augmenting with our distance from the coast.

“ *January 6th.* At six this evening, being then about 116 miles from the land, a line of seventy-two fathoms indicated a bottom of fine sand and gravel; and from that moment no bottom was found, though we sounded at different times. This gradual augmentation of the depth of the sea near the coast, proves that the land subsides under the water by an almost insensible declivity, and gives us reason to be-

lieve that it rises in the interior by an acclivity equally gentle, so that the heights in the interior are too distant to be perceived from the coast.

“ *January 8th.* We were carried on the 7th, twenty-three miles to the westward, and this day twenty-one miles in the same direction. At noon we were in 35 degrees 30 minutes, south latitude. The rapidity of these currents towards the west, perhaps depends on some channel which separates the lands of New Holland from those of Cape Dieman, between Point Hick and Furneaux’s Islands. Captain Cook, in exploring the eastern part of New Holland, saw no land in that space, and believed it to be the entrance of a great gulph. Perhaps on that part of the coast a channel commences, which, after forming different sinuosities, opens westward in the same latitude, in which we experienced such strong currents.”

The foregoing opinion of the interior rising high, out of sight of the sea, coincides in a remarkable manner with the ideas I had formed of it before I had seen this author’s work, although my opinion arose from a different train of reasoning. Again, the observation upon the rapidity of the currents to the westward of Bass’s Strait, before it was ascertained that such a strait existed, is similar to Dampier’s remarks on the currents at Roebuck Bay,

Cygnat Bay, and Buccaneer's Archipelago, and which will probably eventually prove to arise from a nearly similar cause.

C.

A word on the apparent backwardness of the Local Government to encourage interior discovery.

It has been surmised that Government has discouraged explorations into the interior from the fear that a further knowledge of the country would operate to the prejudice of convict discipline, by the convicts becoming acquainted with the geography of the interior, and in consequence deserting from the colony in parties.

The convicts do already desert from one settlement to another, whenever they think they can do so without being detected; but that they should desert into the interior, and voluntarily encounter famine, want of water, and hostile Indians, is an act that would only be tried by a few; when, after being worn out with fatigue, they would return to the nearest depot and give themselves up, and their example would prevent the attempt from being tried again for a long time.

But, suppose a party of convicts were to get clear off, *vid* the interior, as they could not

possibly escape from the shores of the continent, they would be obliged to subsist as huntsmen, unless they had provided themselves with tools and seeds for a settlement, (like the party on Kangaroo Island), and if they succeeded in this way, other parties might be tempted to decamp and join them, or form another settlement for themselves. In these cases the circumstance would prove a benefit of a general nature, by the having settlements formed at no expense, which would have cost a deal of the public money, the forming at some later period. And as these settlers would, no doubt, establish themselves in very fertile and pleasant situations, they would eventually be of great use, by having forestalled the French convicts, who will desert, not only into the interior, from their new settlement,* at Shark's Bay, but will also annoy the English settlers at Swan River. Of the two evils, I should suppose that the Swan River farmers would sooner have English convicts for neighbours than French, whose language they would not understand, and whose manners (letting alone their intolerant doctrine of hatred to men of a different sect) are in every respect so widely different from theirs.

If it were the intention of the runaways to

* "A French expedition sailed in the summer of 1828, to found a colony at Shark's Bay."—*A Newspaper Report*.

subsist as hunters, the game of the country would not last them long, neither would they be able to exist on such wretched fare as the Indians do; and as to their becoming bush-rangers, and supporting themselves by plunder, they have tried it repeatedly, and have always been hunted down and punished.

Viewing the question in every point of view, there does not appear the least reason for an objection to prosecuting discoveries in the interior. And if we do not, a certain nation will, and cover the map with foreign claims.

D.

I have alluded in the twelfth Chapter to the utility of planting a small colony on the island of Amsterdam. It may be as well to insert here some account of that and the contiguous island of St. Paul, which I have culled from various sources, and from a friend, a Lieutenant in the Navy, who landed on the former island in 1804.

St. Paul is in sight of, and about fifty miles to the north of Amsterdam. One writer says, it presents no remarkable high land, or rising in a conical form; it is overspread with trees and shrubs, and abounds with fresh water. It affords no good anchorage, or any place for easy

standing; and my friend says, it is not possible to land upon it, except by dropping a grapnel, and jumping off the boat's stern upon the rocks.

Labillardiere says of St. Paul, "we ranged along the southern coast at the distance of five hundred yards from the shore, with a N.N.W. wind. This coast is very steep and perfectly safe; the surges, which followed its direction, would have apprized us of our danger in approaching it if there had been any shoals. The hills on the south-east side of the island descend with very steep declivities as far as the edges of the sea, and appeared to me to consist of layers of freestone, inclined from north to south, so as to form an angle of fifty degrees with the horizon. Further to the south I observed horizontal layers of the same kind of stone, from whence a small rivulet discharged itself, in a cascade, into the sea. The rocks facing the sea were shaped into a variety of grotesque figures. The forests of this island were on fire, (March, 1792) from whence a thick smoke ascended, which almost entirely covered it, especially towards the north: the course of the flames and smoke, which appeared successively in different parts of the country, pointed out to us the progress of the conflagration. We steered our course so as to pass to windward of the island; and it would have been impossible to

put in there, as we could not have found an anchoring place except to leeward, where we ran the risk of being suffocated by the smoke. The hills gradually diminish in height towards the south-east end of the island; so that in favourable weather vessels might easily put in at that part of the coast. We observed several rivulets, which, after winding with a serpentine course amongst the hills, discharged themselves into the sea. This island is about eleven miles and a half in circumference."

I feel perfectly convinced that this little fertile spot in so fine a climate, might be made very useful as a refreshing place for fresh provisions, were a few spirited capitalists to employ a skilful engineer and a cargo of gunpowder to blast the rocks* at some eligible part of the coast, where a sea wall or mole might be carried out sufficiently spacious to hold one or two vessels in safety; and as a mere "house of call" it need not hold more. If the forests were cut down, there would be no danger from conflagrations, and a small community of farming and gardening men might make themselves very much more comfortable there than the

* Norfolk Island could also have a harbour formed by a jettee or pier, by means of blasting the rocks, improving the entrance, &c.

forty people on that barren rock, the island of Ascension, which I coasted in my voyage home from India, and which cannot boast of a tree.

“Amsterdam,” according to Dr. Gillan, who visited it 1793, “is the product of subterraneous fire. On the west and south-west sides there are four small conical hills regularly formed, with craters containing lava and other volcanic substances. A great crater on the eastern side, now full of water (the harbour) is by far the largest here, or perhaps elsewhere, and is of an astonishing size, considerably exceeding in diameter those of Etna and Vesuvius. All the springs or reservoirs of hot water, excepting one only, were brackish. The water used by the seal catchers on the island, occasioned them no inconvenience, and habit had reconciled them to its taste.

“The length of the island from north to south is upwards of four miles; its breadth from east to west, about two miles and a half; and its circumference eleven miles, comprehending a surface of about eight square miles or 5120 acres, almost the whole of which is covered with a fertile soil. The island is inaccessible, except on the east side, where the great crater forms a harbour, the entrance to which is deepening annually, and might, by the aid of art, be made fit for the passage of large ships. The tides run in and out at the rate of three miles

an hour, and rise perpendicularly eight or nine feet on the full and change of the moon: their direction is south-east by south, and north-east by north. A northerly wind makes the highest tide. The water is eight or ten fathoms deep almost close to the edge of the crater."

My friend describes it thus, "Amsterdam has a haven on the eastern side; it is about a quarter of a mile long and one hundred yards wide, and then turns short to the right, about one hundred yards. There is a bar which I believe is rocky, and I do not think any vessel above fifty or sixty tons burden could get in, although there is depth of water for much larger vessels within it. On the left, and in front (where there is a fissure in the rock, and fire from a volcano visible at night) the rock is almost as perpendicular as the sides of a tennis court, and casts a dark gloom over the basin. The water is brackish, and could only be got at the rate of four gallons per hour. There were plenty of seals and crawfish, and the penguins and other aquatic birds so tame, that they would fly to your hands for the bits of blubber taken from the seals."

Lieut. Grant says of this island (in his voyage of discovery to New South Wales) Nov. 2, 1800, "We saw this island at eight o'clock, A.M. We steered close along the S.E. shore, and found frequent gusts of wind accompanied

with rain. Seamen in passing close in shore ought to be guarded against these. A thick cloud hovering over the highest peak of the island indicated at this time unsteady weather. The shore we passed along was pretty high and inaccessible, until we opened the basin, which is remarkable from a sugar-loaf rock standing contiguous to it. This is the proper mark given for bringing a vessel to anchor; and it does not appear till you are close upon it, when keeping near the shore, owing to its being hidden by a nook of land. Great care must be taken to have every thing ready for immediately coming to an anchor, there being a very strong outset from the basin, which is felt the moment you open the rock. In this instance we were particularly unfortunate. I have before observed, that we had heavy gusts off the shore, and that the peak was covered with a cloud. The moment we had opened the basin and got a sight of this rock, there came on so violent a squall with thick sleet and rain, that the land was entirely hidden from our sight. The current also which setting out very strong, had caused a confused bubbling and troublesome sea, and though we hauled to windward instantly and made several tacks, in order to gain the bank for anchoring, our efforts were without effect, the wind and current being too powerful for us. When the squall cleared off,

we saw a flagstaff, and flag flying on the top of the peak, belonging to a sealing party on shore."

The following extract from the log-book of the ship Clyde, will further illustrate this island.

"Wednesday, 18th October, 1820.—Sent two boats towards the shore for the purpose of fishing. On landing they found a Frenchman and four slaves, from the Mauritius, settled on this island to catch the fish, which so plentifully abound round it. His employers sent a schooner yearly from the Mauritius for what he had procured; and he assured us that during the last two years he had sent annually eighty thousand large dried fish. He pointed out to us the best fishing ground, about one mile and a half to the southward of the entrance to the basin in twenty-three fathoms water, where two boats caught about five tons of fish in about two hours, a sort of cod of excellent quality: in fact, their number seemed inexhaustible.

"On the side of the hills which surround the basin we found cabbages, turnips, parsley, and other herbs, (seeds having been sown by this man), so that the whole face of the mountain was covered with vegetation sufficient for the refreshment of many ships' crews. This man had also bred a great number of hogs, goats, and fowls; many of the former were running

wild about the island, so that there is no doubt that, in a short time, a ship touching at the island will be able to procure a considerable addition to her live stock. He presented us with two pigs and a few seal skins. The basin abounds with crawfish, many of which we caught and boiled in the hot springs, which are numerous on its margin; most of them, indeed, are sufficiently hot to cook provisions of any sort in a short time. Smoke issued from many parts of the mountain, but we did not perceive any flame.

“ We made this island under the idea of finding a barren useless rock; but, on the contrary, we found it an agreeable place, abounding with vegetables, capable of supplying fish for our whole crew and soldiers, and of furnishing an addition to our live stock.

“ Whilst the ship was hove to, we saw the island of St. Paul from her deck, bearing north, distance about fifty miles.”

Two men, James Paine and Robert Proudfoot, natives of Edinburgh, were taken off this island by Mr. Addison, chief officer of the *Palмира*, on the 4th November, 1827; they had been there ever since the month of September, 1826, having been left behind by the Governor Hunter. It does not appear that the information these men were able to give has ever been published.

The foregoing descriptions of Amsterdam (the

southernmost island) and of its waters, certainly do not make it appear a very inviting spot; yet, as it possesses a harbour, it is possible to make the island more valuable than St. Paul. There are few or no trees on it, but as the soil is very rich, trees of every kind might be introduced from the Cape, and there is no fear but that they would thrive, and that corn, wine, and oil, might also form some of its productions. Dr. Gillan was of opinion that there had been a recent eruption of the volcano; but if there had, its extent was confined to the immediate circumference of the cone: however, I differ with the Doctor on that point; it is well known that a small flame issues from the earth in several places on the globe, particularly in Asia, which has been burning from time immemorial, and is regarded with the most perfect indifference by the neighbouring inhabitants. The flame at Amsterdam is so small (when it does burn) that it cannot be seen by day. I do not think there has been an eruption on the island since the basin was formed, perhaps a period of a thousand years; and I think it is nearly an extinct volcano, the sea having got access to the bowels of the earth. I do not apprehend any danger from residing on the island.

With regard to the navigation, Lieutenant Grant was in a small sailing cutter of only sixty tons, but a steam packet would not have been

balked by the obstacles of contrary winds and currents, or bubbling seas.*

E.

On the 2d of October, 1824, a settlement was formed on Melville Island, by Captain J. G. Bremer, C. B. of his Majesty's ship *Tamar*. The expedition consisted of a detachment of the third regiment, forty-five convicts, and a party of royal marines. A fort was erected, and named Fort Dundas, and the harbour was called Port Cockburn; the command of the station devolved to Captain Barlow, but as the object for which the settlement was formed (trade with the Malays) has completely failed, it was abandoned some time this year (1829).

On the 18th of June, 1827, the foundation of a new colony was laid at Port Raffles (near Port Essington, in the Cobourg Peninsula), on the north coast of Australia, and a fort for its protection, named after the Duke of Wellington, by Captain Sterling, of his Majesty's ship *Success*.

January, 1827, the *Success*, Captain Sterling, had sailed from Port Jackson, with the colonial cutter *Currency* in company, to form a settlement in King George the Third's Sound. The *Fly*, Captain Wetherall, had returned to Syd-

* Maps of the Islands of St. Paul and Amsterdam are desiderata.

ney, from establishing a fort, called "Dumaresque," at Western Port, which Government meant to settle as a colony, and which, from its situation, has advantages over the parent colony. The timber on the spot is remarkably fine, it is well clothed with grass, and affords excellent coals."

The above passages, copied from periodicals, are the only records we have of the formation of those settlements.

Bathurst, it is supposed, will be a sort of capital to the country westward of the Blue Mountains, but its situation is not central enough, and its other advantages, although great, are not to be compared to those of Wellington Valley, the beautiful scenery of which will, in the course of ages, attract all the wealthy and independent from other parts. Wellington Valley must become the focus of attraction; it is about the centre of all the western country, and while it will always prove a difficult navigation to work boats full of merchandize up the Macquarie, towards Bathurst, when the country becomes well peopled, it will be an easy navigation with the stream down towards Wellington, say the capital. For this reason it is of importance to fix on a scite for a great city somewhere in the neighbourhood of that valley; and I should recommend its present settlers to institute a museum, a library, and form a botanical garden and nursery, as such advantages

would greatly assist both the settling of the place and recreation of fresh emigrants.

The following is a brief description of that interesting valley.

Wellington Valley is bounded on the north by the Macquarie river, on the south by the Narugal hills, on the west by the Glen Finlas range, and on the east by ranges of low and fertile hills. Its extreme length, by computation, is about twenty-five miles, and its extreme breadth about three. Bell's river, a stream of considerable magnitude, meanders through its centre, dividing it into a series of unconnected plains, beautifully distributed on both sides of the river, each containing on an average upwards of one thousand acres of the richest land imaginable. The grasses and herbage are most luxuriant, and the banks of the river are, in many places, covered with an impenetrable brush of herbaceous plants. Twelve miles south of the confluence of Bell's River and the Macquarie, the valley gradually contracts, and the range on each side assumes a more elevated form, although not less fertile; and the plains retain their character throughout. The timber trees are principally blue gum, casuarina, and the apple tree; all of them exceeding any thing seen on the east coast. On the Glen Finlas range are abundance of cypress of considerable dimensions, which have a most

picturesque appearance. The rivers abound in excellent fish, many of which have been known to weigh forty pounds. Wild fowl, emus, pelicans, swans, ducks, teal, quail, &c., are in the greatest abundance; and kangaroos are numerous.

The geology of this track is very interesting. On the south bank of the Macquarie, are beds of green stone, containing very fine agates; the hills bounding the valley on the east are composed of mountain limestone. The Glen Finlas range is principally formed of breccia; slate has been seen in abundance a few miles lower down. Jasper and porphyry have been found in large beds on the neighbouring ranges; and granite abounds on the ranges south-east of the valley.

The scenery about Glen Finlas surpasses any thing seen in the hitherto settled districts of the colony; the dark green cypress and precipitous rock, added to the peaked forms of the mountains, is truly grand; and the opening of the Glen into the valley is magnificent.

I beg leave to hint at the utility of fixing on a scite for a metropolis on the banks of the Brisbane, in a situation sufficiently near the sea for ships to reach it, and in a high dry position, which may, at some future time, be a second Calcutta, a city of palaces. I can prove that Sydney never can be the metropolis of a great

empire:—will it afford fresh water for one hundred thousand inhabitants during a dry season? No, it will not water half that number; for, even now, with its present small population, it is sometimes threatened with a dearth of that most necessary article. In the month of January or February, 1829, water was retailing at Sydney and its environs at fourpence per gallon! Sydney can never be any thing else than the “Australian Portsmouth,” a naval or military station, a port for men of war and dock-yards; but no contrivance can ever fit it to water a great multitude; besides, its situation on the coast is not so advantageous as that of Moreton Bay, which is just half way between Torre’s and Bass’s Straits, and therefore central to the whole eastern coast. There are no mountains in the rear of Moreton Bay, but the country, although high, is richer, the vegetation more luxuriant, and the available land far more immense in extent and more valuable than that in the rear of Sydney. The entrance to the Brisbane is not more difficult or more dangerous than the mouth of the river Thames. As an Indian, and feeling an attachment to old recollections, I feel convinced that the tropical character of the climate and country at the Brisbane will be much better liked, and quite as healthy as that of Port Jackson; and the immense body of fresh water

rolling down that fine river will supply a population of millions.*

Attempts are now making to cry down the healthiness of the settlement at Moreton Bay, but I have seen so much of this sort of "gulling" in India, that it will not be an easy matter to deceive me again. The officers and men of the detachment do not perhaps like the post, and the convicts relish as little their work; this, together with excessive imprudence in a climate where the day is hot and the night cold, is sufficient to procure a visit from intermittent fevers. I was one of a party once, which had to cut their way through a jungle to the top of a hill (a most laborious job); on descending from which into a deep glen, one of our companions, bathed in perspiration and exhausted with fatigue, seated himself on a rock in the middle of a brook of clear water cold as ice! He got an obstinate intermittent fever which nearly cost him his life; and the good Doctor *Wiseacre* said it was owing to the unhealthiness of the climate!

I assert, in the teeth of all contradiction, that intermittent fever is the visitor of almost every country and every climate, and that the miasma of decomposed vegetable matter has

* A map of the whole course of this river is very desirable.

nothing to do with this disease. I have seen it a visitor in the open dry plains of Bangalore ; in the thickly wooded hills and valleys of Wynaad ; in the swampy districts of Madura ; in the cold fresh open moors of western Yorkshire ; in the smoky and dense atmosphere of London, and even in the hot and delightful climate of Madras, although, it must be acknowledged the " Demon " was like a fish out of water at the latter place. Ask one hundred men ill with intermittent fevers how they got them ; if they tell the candid truth, it will be found that not one out of the whole number but was attacked in consequence of some foolish imprudence ; (it is not necessary to quote the innumerable indiscreet acts that old as well as young, rich or poor, superior or subordinate men out of their native country are guilty of), I have seen too much of it, and I say, that the climate has little to do with it.

But perhaps the post at Moreton Bay is not well chosen : the convicts may get chilled in the evenings after working through the heat of the day at a great distance ; the shooting excursions of the officers, and exposure to the two extremes of heat and cold of the other inhabitants on business, without observing such rules of conduct as common sense, or a better and longer acquaintance with the climate

would dictate, may have occasioned several to be visited with fever.

The scite of the metropolis, if ever fixed near the Brisbane, should be high enough up the river to be out of the reach of salt water, and emigrants should avoid doing those things, which would, in any other country, lay them up with bad fevers, and not allow themselves to be carried away with too much zeal in their novel undertaking.

I never look back and recollect the serene sky, voluptuous air, and white marble* palaces of India, (and the climate of Australia offers similar enjoyments), and contrast those circumstances with the everlasting clouds, the inexorable piercing winters, and everlasting wet weather of England, my native country, but with feelings of the deepest regret. The climate of England is the most fickle of all fickle climates, and the land is the harbour and nursery of almost all the diseases of the whole globe. The list of them would fill a page, and they are too frightful to peruse, or I would annex them and challenge any country to show the equal. Again, what are the vaunted blessings of England? security of property, I grant. Security of life?—Alas! there are as many

* I allude to the beautifully polished white chunam.

victims to the assassin's knife in Great Britain, as almost anywhere : an Englishman cannot walk through a solitary field alone,* or reside in a retired house, but at the risk of being robbed and maltreated. Her poor are depraved and insubordinate ; her fertility is made akin to barrenness by the elements, and her scenery is worse than insignificant, when compared with the gorgeous apparel of the creation in a finer clime. Neither her learning, her liberty, and I had nearly said, nor her religion, can compensate for her bad climate.

The outcry of the want of fresh water in Australia, whenever any new settlement is to be abandoned, is perfectly ridiculous. The East Indians dig tanks and save the water which falls during the rains, and so ought every community of settlers in such a dry country as that of New South Wales. And as boring for water is brought to such perfection in England, why not introduce this mode, and sink wells ?

Port Lincoln is spoken of with raptures by some foreign officers, who designated it as a magnificent port, with a fertile back country ; but here again, the old cry of " no fresh water " starts up like a bugbear, to prevent its being

* Scarcely a week passes but some one of the Provincial Papers contains a cold blooded murder.

settled. It is much to be regretted, as it is the only harbour on that part of the south coast ; and were a small penal settlement formed there, the convicts might soon construct a dyke or dykes, with blocks of stone and earth across a ravine between two small hills or ridges, which would save an immense volume of water in the wet season : and as population increased, other tanks or reservoirs might be constructed in the same way.

F.

It is a melancholy fact, that men prepare the rod for their own backs. It is much to be regretted that the ill-natured, illiberal distinction of party, is still persisted in, in Australia, by the terms *Currency*, *Sterling*, *Aristocrats*, and *Emancipists*. This perpetuation of dissention will get a sad *quietus* some day or other ; for as the numerous majority are on the side of the emancipists, a most exemplary vengeance would certainly overtake the aristocrats in the event of any political convulsion. I strongly recommend all parties to bury in oblivion such unchristianlike distinctions ; as, though one set of men may not have been guilty of stealing a silver spoon, yet they may have

committed offences of equal magnitude in the eye of God. "Let him that is innocent cast the first stone," might be usefully remembered by some people.

And with respect to the Australians releasing themselves from their allegiance to Great Britain at some future period, I would have them always bear in mind, and keep in view, the present enlightened state of European Governments. Let them not act as America did: let them not light up the torch of civil war. America was first settled by convicts in 1619, and set up for independence in 1776, a period of 157 years; but her population was increased by a heterogeneous mass of foreigners from all the old kingdoms, and aided by armies from Europe. Australia cannot expect to be made independent in a less period. The Australians should therefore cultivate the peaceful arts, and continue to make their loyalty their glory; and the British Government, grown wiser from the sad experience of the first American war, will spontaneously grant Australia unconditional independence at the proper time, *i.e.* when the colony is fit for it. (And some of the articles in the first treaty with this new State should provide for and settle as a perpetuity, the receiving, guarding, and employing convicts from Great Britain as usual; as necessary a relief to the one country as advantageous to

the other.)* But I would warn the Australians against thinking of forming a republic ; a little insight into that of the United States of America, will soon prove under what government a nation flourishes best, and what Providence has adapted man for ; and unquestionably, it is that of a monarchy ; where the meritorious are promoted and rewarded by their country, and an incentive to good deeds is continually held out. It is not so in a republic, for even the very President sinks again into his original insignificance.

G.

*UNITED STATES OF NORTH AMERICA.

Although the following extract is quite foreign to the subject of this book, yet, as I have alluded to the United States of North America in several places, I shall be excused for inserting it, to shew that there is perhaps, at last, a chance of a better feeling towards England being cultivated by the inhabitants of the Vespasian Republic.

Extract from the speech of the new President of the United States, General Andrew Jackson,

* This would be better than introducing negro slavery, as is hinted at by the author of "The Letter from Sydney."

delivered to both Houses of Congress, on the 8th of December, 1829.

“With Great Britain, alike distinguished in peace and war, we may look forward to years of peaceful, honourable, and elevated competition. Every thing in the condition and history of the two nations is calculated to inspire sentiments of mutual respect, and to carry conviction to the minds of both, that it is their policy to preserve the most cordial relations. Such are my own views, and it is not to be doubted that such are also the prevailing sentiments of our constituents. Although neither time nor opportunity has been afforded for a full development of the policy which the present Cabinet of Great Britain designs to pursue towards this country; I indulge the hope that it will be of a just and pacific character; and if this anticipation be realized, we may look with confidence to a speedy and acceptable adjustment of our affairs.”

It is gratifying to record this, the first exhibition of any symptoms of an amicable feeling towards the mother country; and as General Jackson may depend upon the true wisdom of preserving the most cordial relations with Great Britain, so would he be entitled to the love and respect of the whole world, would he, like another Wellington, emancipate the dark coloured children of his native land, and wipe off

for ever the foulest stain that ever disgraced the human character, "The slavery of men, convicted of no crime but the difference of colour," negro slavery.

H.

THE AUTHOR'S APOLOGY.

"The Friend of Australia" was written in the autumn of the year 1827, but in consequence of the then *indifference* shewn by the public to the subject of Australian geographical discovery, I was persuaded to defer its publication.*

In consequence of the singular coincidence of my opinions respecting a great river, with the recent discovery of a great salt river† in the interior, by Captain Sturt, I have been encouraged to publish it, and it is therefore with diffidence offered to the geographical public, not as a literary work, but merely with the view of affording a few hints for the further survey of the interior; to shew its practicability, and to inculcate the system of establishing a chain of depots to facilitate the forwarding of provisions.

* A few articles in the latter part of the book were written at a later date.

† The Darling, but now christened the Wellington.

The discovery of so inhospitable a country, along the course of the salt river Wellington,* may give an appearance of difficulty to my plans; but as they may be modified, altered, improved upon, or adopted wholly or in part, (the *system* of forwarding provisions being the chief aim of the work), if they will not suit the vicinity of this river, yet they may other portions of the Australian continent.

The situation and direction of the current of the river Wellington, is pointed out in the map by an arrow. I have not thought it worth while to alter the dotted course of my supposed great river; for as to the actual course of the Wellington it must be all conjecture, until it has been followed to its estuary or embouchure into the ocean. The map was only designed to illustrate the coasts, and the system of interior depots.

In the progress of time and increase of population, not only may the Macquarie be united to the Wellington, but also the waters of, perhaps, many undiscovered fresh-water rivers, from the eastern mountains, which may be led into it by canals, and thus render it both navigable and drinkable. At present we are unacquainted with any tree that would grow on its banks, unless it be the cocoa-nut-tree, which

* For an account of the discovery of the Wellington, see the Supplement in "The Picture of Australia."

I have seen growing in sea water ; but if ever it should be used for an interior navigation, and a settlement required near it, date orchards and acacia woods might be planted (during the rainy season) round the settlements, as these trees will grow in aluminous soils, and the most arid lands.*

I will here take the opportunity of observing, that my map was drawn two years before that useful little work, *The Picture of Australia*, was published, in which work I am sorry to see the old discarded nomenclature, the designation of "New Holland," again fixed on the map. I have always understood that the public were pleased to call that continent individually by the name of "Australia" (as it is in the Admiralty charts), which term does not include the islands, and Van Dieman's Land by the name of Tasmania. Austral Asia should, therefore, as a matter of course, be the term which should include all the contiguous islands of New Guinea, New Zealand, New Caledonia, Timor, and Tasmania. There is nothing new in the changing of names to suit popular prejudice, and I thought I was only chiming in with the wishes of the public when I wrote the latter part of my preface.

* Humboldt considers Australia a continent, whose development is not perfected : the elucidation of its physiognomy is therefore the more interesting.

It seems to be the general opinion in Australia, that the question of the existence of a lake in the interior, is set at rest in the negative, by the result of Captain Sturt's expedition; but it would appear, from the following extract, that there are good grounds for believing, not only in the existence of a lake of considerable size, but also in a numerous population of Indians.

“ The following description of the lake in the interior of Australia, was given by the Indians to Mr. Jamison, preparatory to that gentleman's expedition thither, which has been, however, laid aside.

“ The interpretation of three of the Bathurst natives, held separately with the lake native guide, agreed in the following description of the country, the journey, and the lake: that the party would start from Mr. Rankin's estate, situated on the Lachlan, and follow the course of that river for three days; that they would then proceed one day's journey in a north-west direction, when they would come to what was formerly a sheet of water, as extensive as Bathurst Plains, but, from the drought, now reduced to a mere swamp in its centre, the native name of which is Cowel: that the Indians can reach Cowel in three days' journey, from Mr. Rankin's estate, on the Lachlan; but that this direct line of country, though open and pastoral, was without water, and that they depended for

drink on the acidulated water they could procure by tapping apple-trees; that from Cowel they would follow the banks of a well-watered creek for six days, in a westwardly direction, and the seventh day they would proceed to the northward of west, when they would arrive at the great lake, named Walambingie: that it took the Indians three days' journey to walk round the banks of the Walambingie, that is to say, seventy-five miles: that its water was very deep, and that it gave source to a large river, which seemed to run in a parallel direction with the Wellington; that the Walambingie abounded with large fish, and that there were animals in it similar to large dogs, which splashed about much on the surface of the water, and the Indians were fearful of being caught by them; and that the water of the Walambingie was not only fresh but remarkably fine; that the plains surrounding this lake were much more extensive than those at Bathurst, and that the country generally was thinly timbered, with a fertile black soil, and possessed rich pasturage, and was exceedingly well watered; that vast numbers of emus were to be seen there, and a large species of red-coloured kangaroo; and that the Indians were much more numerous than in the Bathurst country.*

This account of a lake seems to carry with

* Asiatic Journal for January, 1830.

it an air of great probability, and if the whole should prove true, it will confirm the ideas I had previously formed of the varied topography of the interior. From my experience on the Coromandel coast, where there are several salt lakes, inlets, and bar rivers; also barren sandy plains, in some places extending some distance inland, while the interior is a populous and beautiful country; I feel very much disposed to slight the tales about a barren desert in the interior of Australia, so strenuously urged by some voyagers, on account of the sterile appearance of its coasts and shores; these same voyagers not having advanced more than ten miles into the country.

Having studied nearly all the numerous publications and accounts, foreign as well as English, of the continent of Australia, and collated such parts as bear upon the question, or led to the least light upon the subject of the topography of the unknown interior; I feel no hesitation in asserting my belief, that the central parts of that continent will be found, on further examination, to be as varied in surface as that of any other continent; and that there is sufficient evidence to induce a belief that some parts of the western, and north-west interior, will be found to be highly fertile, and that the northern interior will be found to be a second India.

It is altogether unlikely that several simultaneous expeditions would ever be ordered to explore Australia, but if I may be pardoned the presumption of introducing the names of a few individuals, as being particularly fit for certain services, I should recommend that Capt. P. P. King be appointed to survey the labyrinth of islands and the interior waters eastward of Roebuck Bay, with three light sailing flat bottomed steamers under his command (one to act as consort and the third as tender). That Captain Sturt be appointed to the command of an expedition for the survey of the central portion of the continent, commencing at Mount Granard. Captain G. F. Lyon to conduct an expedition on camels from Peron's Peninsula to the centre of the continent, and return to Swan River. Captain Sir J. Franklin to conduct an expedition from Fowler's or Smoky Bay, on the south coast, to the centre of the continent, and thence to Mount Granard. An expedition fitted out in Bengal, or at Madras, with a sipahee escort and camels, to land at Port Raffles and proceed from thence to the centre of the continent, and thence to Mount Granard; and in the event of the discovery of any great lake or inland sea, Captain Bayfield and Lieutenant Fraser (the surveyors of the lakes of Canada) to an aquatic expedition for the survey thereof.

I.

CATALOGUE OF WORKS ON AUSTRALASIA.

I would recommend captains of vessels trading to Australia, to keep a selection of books relating to that division of the globe, on board their ships for the amusement or instruction of their passengers; as a great many of these useful and entertaining works might be read with advantage, in a voyage of four months. The following is a list of them.

1.—A New Voyage Round the World, describing particularly the Isthmus of America, several coasts and islands in the West Indies, the Isles of Cape Verd, &c., New Holland, Sumatra, Nicobar Isles, the Cape of Good Hope, and Santa Helena. By William Dampier. 8vo. Maps and Draughts. James Knapton. London, 1697. pp. 550.

2.—Dampier's Voyage to the West and North Coasts of New Holland, in H.M. Ship *Roe-buck*, in 1699. Plates. 4 vols. 8vo. London, 1701.

3.—Voyages to the East Indies of Gatier Schouten (who visited New Holland in 1659) from 1658 to 1665. 2 vols. 12mo. Published at Amsterdam in 1707 and 1708.*

* There are several more ancient voyages to New Holland in print, but I have not been able to see them or collect their titles, although they are occasionally referred to in modern works.

4.—An Account of several late Voyages and Discoveries: 1. Sir John Narbrough's Voyage to the South Sea. 2. Capt. J. Tasman's Discoveries on the coast of South Terra Incognita. 3. Capt. J. Wood's attempt to discover a North East passage to China. 4. F. Marten's Observations made in Greenland, &c. W. Innys: London, 1709—1711.

5.—Captain James Cook's First Voyage Round the World, from 1764 to 1770. 2 vols. 4to. London, 1772.

Cook's Second Voyage Round the World in 1772, 3, 4, and 5. 2 vols. 4to. London, 1777—1779.

Cook's Third Voyage Round the World, in 1776, 7, 8, 9, and 80. 3 vols. 4to. London, 1781.

6.—The History of New Holland from its first discovery, in 1616, to the present time; with a particular account of its produce and inhabitants, and a description of Botany Bay: also, a list of the naval, marine, military, and civil establishments. To which is prefixed, an Introductory Discourse on Banishment, by the Right Hon. William Eden. Illustrated with a Map of New Holland, a Chart of Botany Bay, and a general Chart from England to Botany Bay. 8vo. J. Stockdale. London, 1787. pp. 254.

7. The Voyage of Governor Phillips to Botany

Bay, with an Account of the establishment of the Colonies of Port Jackson and Norfolk Island, compiled from authentic papers which have been obtained from the several departments. To which are added, the Journals of Lieutenants Shortland, Watts, Ball, and Capt. Marshall; with an account of their New Discoveries. 4to. With fifty-five copper-plates; also, maps and charts from actual surveys. J. Stockdale, London, 1789. pp. 293. Price £2 12s. 6d.

8.—Complete Account of the Settlement of Port Jackson, in New South Wales. Including an accurate description of the situation of the colony, of the natives, and of the natural productions; taken on the spot by Capt. Watkin Tench, of the Marines. 4to. G. Nicholls, London, 1789. pp. 212.

9.—A Narrative of the Expedition to Botany Bay, with an account of New South Wales, its productions and inhabitants, &c. To which is subjoined a list of the civil and military establishments at Port Jackson. By Capt. Watkin Tench. 8vo. J. Debrett, London, 1789. pp. 146.

10.—Journal of a Voyage to New South Wales; with sixty-five plates of nondescript animals, birds, lizards, serpents, curious cones of trees, and other natural productions. By John White, Esq., Surgeon-General to the

Colony. 4to. J. Debrett, London, 1790. pp. 299. Price £5.

11.—Extracts of Letters from Arthur Phillips, Esq., Governor of New South Wales, to Lord Sydney; to which is annexed, a Description of Norfolk Island, by Philip Gidley King, Esq. An account of expences incurred in transporting convicts to New South Wales. 4to. J. Debrett, London, 1790. pp. 26.

12.—Copies and Extracts from Letters from Governor Phillips, giving an account of the nature and fertility of the land in, and adjoining to any settlement in New South Wales; and of the probability of raising any, and what provision thereon; and of the behaviour and employment of the convicts sent there; and which have been received since the last account was laid before the House of Commons; to which is prefixed, copies and extracts of letters from the Secretary of State for the Home Department, bearing date since the last accounts relative to the transportation of convicts to New South Wales and providing for the same. 4to. J. Debrett, London.

13.—An Historical Journal of the Transactions at Port Jackson and Norfolk Island, with the discoveries which have been made in New South Wales and the Southern Ocean, since the publication of Phillips' Voyage, compiled from

the official papers; including the Journals of Governors Phillip and King, and of Lieutenant Ball; and the voyages from the first sailing of the Sirius in 1787, to the return of that ship's company to England in 1792. By John Hunter, Esq., Post-Captain in H.M.'s Navy. 4to., with seventeen maps, charts, views, &c. J. Stockdale, London, 1793. pp. 583. Price £3 13s. 6d.

14.—Voyage in Search of La Perouse, performed by order of the Constituent Assembly; during the years 1791, 92, 93, and 94, and drawn up by M. Labillardiere, one of the naturalists attached to the expedition. 4to. Illustrated with forty-six plates. J. Stockdale, London, 1800. pp. 476. Price £2 12s. 6d.

15.—Captain Vancouver's Voyage Round the World. 8vo. 6 vols. Maps and plates. London, 1801.

16.—An Account of the English Colony in New South Wales, from its First Settlement in January, 1788, to August, 1801, with remarks on the dispositions, customs, manners, &c., of the native inhabitants of that country. To which are added some particulars of New Zealand; compiled, by permission, from the MSS. of Lieut.-Governor King. And an account of a Voyage performed by Capt. Flinders and Mr. Bass, by which the existence of a Strait separating Van Diemen's land from the continent of New Holland was ascertained;

abstracted from the Journal of Mr. Bass. By David Collins, Esq., Lieut.-Col., and late Judge-Advocate and Secretary of the Colony. Illustrated by engravings and maps. 2 vols. 4to. T. Cadell, Jun., London, 1798 and 1802. pp. 952. Price £5.

17.—The Narrative of a Voyage of Discovery performed in H.M. vessel, the *Lady Nelson*, of sixty tons burden, with sliding keels, in the years 1800, 1801, and 1802, to New South Wales, &c. By James Grant, Lieut. R.N. 4to. A map and engravings. T. Egerton, London, 1803. pp. 195.

18.—A Concise History of the English Colony in New South Wales, from the landing of Governor Phillip, in January, 1788, to May, 1803; describing also, the dispositions, habits, and savage customs of the wandering unfortunate natives of the antipodean territory, with some cursory remarks on the treatment and behaviour of the convicts and free settlers. Also, correct tables of provisions, &c. allowed by Government to settlers and convicts on board ship and in the colony; the names and quantity of land granted to the first free and convict settlers, price of wages, &c. 8vo. (a pamphlet.) Harris; Darton, London, 1804. pp. 40. Price 2s. 6d.

19.—An Account of a Voyage to Establish a Colony at Port Phillip, in Bass's Strait, in

H.M. ship *Calcutta*, in 1802, 3, and 4. By J. H. Tuckey, Esq., 1st Lieut. 8vo. Longman, London, 1805. pp. 239. Price 10s. 6d. (This interesting work is well worth reprinting.)

20.—*A Voyage Round the World in the years 1800—1804.* By John Turnbull. 3 vols. 4to. Second Edition. London, 1805.

21.—*An Account of a Voyage to New South Wales.* By George Barrington, Superintendent of Convicts. To which is prefixed, his life, trials, &c., coloured prints. 2 vols. 8vo. Jones, Sherwood, London, 1810. pp. 294. Price £1 7s.

22.—*The Present State of New South Wales.* Illustrated with four large coloured views from drawings taken on the spot, of Sydney, the seat of Government, with a plan of the colony, taken from actual survey, by public authority; containing an account of the present state of agriculture and trade, prices of provisions and labour; internal regulations, state of society and manners, &c., with hints for the further improvement of the Settlement. 4to. with a vol. of plates. London, 1810. pp. 99. Price £3 13s. 6d. (This work is improperly called "*Mann's Present Picture of New South Wales*," in the catalogue of the Leeds Subscription Library.)

23.—*A Compilation on New South Wales,* by a Literary Gentleman. 8vo. London, 1811.

24.—*A Voyage to Terra Australis, including the Surveys of Carpenter's Gulf; parts of the*

east and north coasts and of the south coasts of Australia, &c., in the years 1801, 2, and 3. By Matthew Flinders, Commander of his Majesty's sloop Investigator. 2 vols. 4to. Fine plates. An Atlas of Charts. Folio. London, 1814. Price £8 8s. (The enquiries for this interesting, splendid, and scarce work, have been so innumerable, that I think it would answer the purpose of any publisher to re-print a fac simile edition of it.)

25.—A Concise History of the Colony and Natives of New South Wales. By Samuel Kittle. 24mo. Plates. Oliver and Boyd, Edinburgh. 1815. pp. 252. Price 3s. 6d.

26.—Robert Brown's Account of the Botany of Van Diemen's Land. 4to.

27.—Brown's Prodomus, a splendid work, unfinished; referred to in The Picture of Australia. pp. 199.

28.—Van Diemen's Land. Geographical and descriptive delineations of the island of Van Diemen's Land. By Lieutenant C. Jeffreys (a), R. N. and late Commander of his Majesty's brig Kangaroo. 8vo. Richardson, London. 1820. pp. 168. Price 5s.

29.—Journals of two Expeditions into the Interior of New South Wales, undertaken by order of the British Government, in the years 1817, 18. By John Oxley, Surveyor General of the Territory, and Lieutenant of the Royal

Navy. 4to. With maps and views of the interior or newly discovered country. John Murray, London. 1820. pp. 408. Price £2 10s. (This work will long be read with interest, and long will the name of Oxley be remembered with regret and affection.)

30.—Two Voyages to New South Wales and Van Diemen's Land, with a description of the present condition of that interesting colony: including facts and observations relative to the state and management of convicts of both sexes. Also reflections on seduction and its general consequences. By Thomas Reid, Member of the Royal College of Surgeons in London, and Surgeon in the Royal Navy. 8vo. Longman and Co., London, 1822. pp. 391. Price 10s.

31.—Narrative of a Voyage to New South Wales and Van Diemen's Land, in the ship *Skelton*, during the voyage 1820, with observations on the state of these colonies, and a variety of information, calculated to be useful to emigrants, &c. By James Dixon, Commander of the *Skelton*. 12mo. Anderson, Edinburgh; Longman, London. 1822. pp. 148. Price 4s.

32.—Godwin's Emigrants' Guide to Van Diemen's Land, more properly called Tasmania; containing a description of its climate, soil, and productions. A form of application for free grants of land; with a scale, enabling persons

in inland towns to estimate the expense of a passage for any given number of men, women, or children. A list of the most necessary articles to take out, and other information useful to emigrants. 8vo. A map and view. Sherwood, London. 1823. pp. 90. Price 7s. 6d.

33.—Narrative of a Voyage round the World, in the *Uranie* and *Physicienne* corvettes, commanded by Captain Freycinet, during the years 1817, 18, 19, and 20, on a scientific expedition undertaken by order of the French Government, in a series of letters to a friend. By J. Arago, Draughtsman to the expedition, with twenty-six engravings, &c. 4to. Treuttel and Wurtz, London. 1823. pp. 297. Price £3 13s. 6d.

34.—An Historical Account of the Colony of New South Wales and its Dependent Settlements, in illustration of twelve views, engraved by W. Preston, a convict, from drawings taken on the spot, by Captain Wallis; to which is subjoined an accurate map of Port Macquarie. Super-royal oblong folio. London: R. Ackerman. 1820. Price £2 2s.

35.—History and Description of the present state of Van Diemen's Land; containing important hints to emigrants, &c. By George Will Evans, Deputy Surveyor General of the Colony, with a map and a view. Second edition. 8vo. London: John Souter. 1824. pp. 176. Price 7s. 6d.

36.—A Statistical Account of the British Settlements in Austral Asia; including the Colonies of New South Wales and Van Diemen's Land; with an enumeration of the advantages which they offer to emigrants, as well with reference to each other, as to the United States of America and the Canadas; and directions and advice to emigrants. Third edition. Maps and a view. 2 vols. 8vo. By W. C. Wentworth, Esq. a native of New South Wales. London: G. B. Whittaker. 1824. pp. 901. Price 24s.

37.—An Account of the Colony of Van Diemen's Land, principally designed for the use of emigrants. By Edward Curr. 12mo. London: G. Cowie and Co. pp. 207. Price 5s. 1824.

38.—Views in Australia, or New South Wales and Van Diemen's Land, delineated in fifty views, with descriptive letter press. Dedicated, by permission, to the Right Hon. Earl Bathurst. By J. Lycett, Artist to Governor Macquarie. Oblong 4to. J. Souter, London. 1824. Price £6.

39.—Voyage de Découvertes aux Terres Australes, fait par ordre du Gouvernement, sur les corvettes le Géographe, le Naturaliste, et la Goëlette le Casuarina, pendant les années 1800, 1801, 1802, 1803, et 1804. (Historique) Rédigé par François Péron, Zoologiste; et continué par M. Louis de Freycinet. Seconde édition, revue, corrigée, et augmentée par M. L. de Freycinet.

Ouvrage enrichi d'un superbe atlas composé de 68 planches. 4 vols. 8vo. Arthus Bertrand, Libraire-Éditeur. Rue Hautefeuille, No. 23, Paris. 1824. pp. 1712. Price £3 12s.

The above is the most splendid work on Australia ever published, and it is astonishing it has never been translated into English.

40.—La partie Nautique et Géographique du Voyage de Baudin aux Terres Australes, par M. L. de Freycinet. 4to. et Atlas, grand folio, composé de 32 cartes. Bertrand, Paris. 1824. pp. 576. Price £3 12s.

This belongs to the above work, No. 39, and is a most splendid collection of charts of the coast, but Captain P. P. King has made a more minute survey of several parts of the same coast. These two works may be procured at Mr. J. B. Bailliere, Foreign Bookseller, No. 3, Bedford-street, Bedford-square, London.

41.—The World in Miniature, containing a description of the religion, manners, customs, diversions, &c. &c. of various countries, with coloured plates.

The Asiatic Islands and New Holland. 2 vols. 8vo. 26 plates. Being the 12th division of the World in Miniature. R. Ackerman, London. 1825. Price 12s.

42.—Geographical Memoirs on New South Wales, by various hands; containing an account of the Surveyor General's late expedition to two

new ports ; the discovery of the Brisbane River at Moreton Bay, with the adventures for seven months there of two shipwrecked men : a route from Bathurst to Liverpool Plains ; together with other papers on the aborigines, the geology, the botany, the timber, the astronomy, and the meteorology of New South Wales and Van Diemen's Land. Edited by B. Field, Esq. F.L.S. late Judge of the Supreme Court of New South Wales and its dependencies. 8vo. Maps and plates. John Murray, London. 1825. pp. 504. Price 18s.

43.—An Account of the State of Agriculture and Grazing in New South Wales ; including observations on the soils and general appearance of the country, and some of its most useful natural productions ; with an account of the various methods of clearing lands, breeding and grazing live stock, erecting buildings, the system of employing convicts, and the expense of labour generally ; the mode of applying for grants of land ; with other information important to those who are about to emigrate to that country. By James Atkinson, Esq. of Oldbury, Argyleshire, New South Wales, and formerly principal clerk in the office of the Colonial Secretary at Sydney, with three views and a plan of a cottage. 8vo. Price 7s. or including a large map and a view of Sydney, 14s. J. Cross, London. 1826. pp. 146.

44.—Two years in New South Wales, comprising sketches of the actual state of society in that colony; of its peculiar advantages to emigrants; of its topography, natural history, &c. &c. By P. Cunningham, Surgeon, R.N. 2 vols. post 8vo. with a map of the colony. Second edition. Henry Colburn, London. 1827. pp. 672. Price 18s.

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The charts of the above survey have been published by the Admiralty for general sale, folio.

46.—A Pamphlet. By Edward Eager, Esq. On the advantages of New South Wales and Van Diemen's Land, as colonies for the reception of poor emigrants. London. 1827.

47.—Index and Directory to a Map of the Country bordering upon the River Hunter, the lands of the Australian Agricultural Company, with the ground plan and allotments of King's Town, New South Wales: containing a detail

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58.—Australia. An Account of this interesting Country, its Prospects and Capacities, and of the Manners and Customs of its Native Inhabitants, being the Narrative of a Three Years' Residence in the Country. By Robert Dawson, Esq., late Chief Agent of the Australian Agricultural Company.

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Nuddea . . .	Bengal . . .	Ditto . . .	23	25N
Dacca . . .	Ditto . . .	Ditto . . .	23	30N
Feringy bazar . . .	Ditto . . .	Ditto . . .	23	33N
Jynagur . . .	Guzerat . . .	Ditto . . .	23	35N
St. Augustine . . .	Madagascar . . .	Africa . . .	23	35 S
Onjein . . .	Malwah . . .	India . . .	23	12N
Pachete . . .	Bengal . . .	Ditto . . .	23	36N
Plassey . . .	Ditto . . .	Ditto . . .	23	45N
Luckput Bunder . . .	Cutch . . .	Ditto . . .	23	47N
Palamow . . .	Bahar . . .	Ditto . . .	23	52N
Burhampore . . .	Bengal . . .	Ditto . . .	24	3N
Moorshedabad . . .	Ditto . . .	Ditto . . .	24	11N
Seronge . . .	Malwah . . .	Ditto . . .	24	3N
Nattore . . .	Bengal . . .	Ditto . . .	24	25N
Nehrwalla . . .	Guzerat . . .	Ditto . . .	24	25N
Munnipore . . .	Cassay . . .	Ditto . . .	24	20N

Names of Places.	Provinces.	Countries.	Deg.	Min.
Cossimbazar . . .	Bengal . . .	India . . .	24	16N
Alibunder* . . .	Sinde . . .	Ditto . . .	24	26N
Jungeypoor . . .	Bengal . . .	Ditto . . .	24	28N
Deoghur . . .	Bahar . . .	Ditto . . .	24	30N
Rhotas . . .	Ditto . . .	Ditto . . .	24	38N
Rewah . . .	Gundwana . . .	Ditto . . .	24	37N
Tatta . . .	Sinde . . .	Ditto . . .	24	44N
Gayah . . .	Bahar . . .	Ditto . . .	24	49N
Corachie . . .	Sinde . . .	Ditto . . .	24	51N
Oudanully . . .	Bengal . . .	Ditto . . .	24	55N
Pannah . . .	Allahabad . . .	Ditto . . .	24	43N
Callinger . . .	Ditto . . .	Ditto . . .	24	58N
Medina . . .	—	Arabia Felix	25	0N
Rajemahl . . .	Bengal . . .	India . . .	25	2N
Malda . . .	Ditto . . .	Ditto . . .	25	3N
Gurruckpoor . . .	Bahar . . .	Ditto . . .	25	8N
Chunar . . .	Allahabad . . .	Ditto . . .	25	9N
Mirzapoor . . .	Ditto . . .	Ditto . . .	25	10N
Boglipoor . . .	Bahar . . .	Ditto . . .	25	11N
Kottah . . .	Ajimeer . . .	Ditto . . .	25	11N
Bahar . . .	Bahar . . .	Ditto . . .	25	13N
Chitore . . .	Ajimeer . . .	Ditto . . .	25	15N
Pitcairn's Island	—	Pacific Ocean	25	22 S
Hyderabad . . .	Sinde . . .	India . . .	25	22N
Monghir . . .	Bahar . . .	Ditto . . .	25	23N
Allahabad . . .	Allahabad . . .	Ditto . . .	25	27N
Odeypoor . . .	Ajimeer . . .	Ditto . . .	25	28N
Benares . . .	Allahabad . . .	Ditto . . .	25	30N
Jhansi . . .	Ditto . . .	Ditto . . .	25	31N
Gazypoor . . .	Ditto . . .	Ditto . . .	25	35N
Ghergong . . .	Assam . . .	Ditto . . .	25	35N
Buxhar . . .	Bahar . . .	Ditto . . .	25	35N
Patna . . .	Ditto . . .	Ditto . . .	25	37N
Dinagepoor . . .	Bengal . . .	Ditto . . .	25	37N
Dinapore . . .	Bahar . . .	Ditto . . .	25	38N
Narwar . . .	Agra . . .	Ditto . . .	25	41N
Jalore . . .	Ajimeer . . .	Ditto . . .	25	44N
Juanpoor . . .	Allahabad . . .	Ditto . . .	25	45N
Rungpore . . .	Bengal . . .	Ditto . . .	25	47N
Manjee . . .	Bahar . . .	Ditto . . .	25	49N
Mhow . . .	Allahabad . . .	Ditto . . .	25	57N

* A great many camels may be procured here.

Names of Places.	Provinces.	Countries.	Deg.	Min.
Rantampoor . . .	Ajimeer . . .	India . . .	26	2N
Goolparah . . .	Bengal . . .	Ditto . . .	26	8N
Kalpee . . .	Agra . . .	Ditto . . .	26	10N
Gualior . . .	Ditto . . .	Ditto . . .	26	18N
Issurda . . .	Ajimeer . . .	Ditto . . .	26	20N
Gohud . . .	Agra . . .	Ditto . . .	26	21N
Cawnpore . . .	Allahabad . . .	Ditto . . .	26	30N
Kishengur . . .	Ajimeer . . .	Ditto . . .	26	32N
Joudpoor . . .	Ditto . . .	Ditto . . .	26	27N
Meerat . . .	Ditto . . .	Ditto . . .	26	35N
Ajimeer . . .	Ditto . . .	Ditto . . .	26	35N
Oude . . .	Oude . . .	Ditto . . .	26	45N
Gorakpoor . . .	Ditto . . .	Ditto . . .	26	45N
Hindone . . .	Agra . . .	Ditto . . .	26	45N
Fizabad . . .	Oude . . .	Ditto . . .	26	46N
Lucknow . . .	Ditto . . .	Ditto . . .	26	51N
Ormuz . . .	Persia . . .	—	26	50N
Jyepoor . . .	Ajimeer . . .	India . . .	26	56N
Dellaimcotta . . .	Bootan . . .	Ditto . . .	26	59N
Thebes, or Said . . .	—	Africa . . .	27	0N
Kanoge . . .	Agra . . .	India . . .	27	5N
Futtiipoor . . .	Ditto . . .	Ditto . . .	27	5N
Easter Isle . . .	—	Pacific Ocean . . .	27	7 S
Ferozabad . . .	Agra . . .	India . . .	27	9N
Agra . . .	Ditto . . .	Ditto . . .	27	12N
Bhurtpore . . .	Ditto . . .	Ditto . . .	27	13N
Futtyghur . . .	Ditto . . .	Ditto . . .	27	22N
Furruckabad . . .	Ditto . . .	Ditto . . .	27	23N
Mucwanpoor . . .	—	Ditto . . .	27	28N
Deeg . . .	Agra . . .	Ditto . . .	27	30N
Bunderabass or } Gombroone }	—	Persia . . .	27	30N
Mathura . . .	Agra . . .	India . . .	27	32N
Catmandoo . . .	Nepaul . . .	Ditto . . .	27	33N
St. Catherine's } Isle . . . }	—	Brazil . . .	27	35 S
Hattrass . . .	Agra . . .	India . . .	27	40N
Noakote . . .	Nepaul . . .	Ditto . . .	27	43N
Paragong . . .	Bootan . . .	Ditto . . .	27	43N
Jesselmeer . . .	Ajimeer . . .	Ditto . . .	27	44N
Tassisudon . . .	Bootan . . .	Ditto . . .	27	50N
Coel . . .	Agra . . .	Ditto . . .	27	54N
Parisdong . . .	Tibet . . .	Ditto . . .	27	58N
Alyghur . . .	Delhi . . .	Ditto . . .	28	0N

Names of Places.	Provinces.	Countries.	Deg.	Min.
Ghassa	Bootan	Ditto	28	0N
Peak of Teneriffe	Teneriffe	Atlantic Ocean	28	13N
Canary, E. Point	Canary Isles	Ditto	28	13N
Bareilly	Delhi	India	28	22N
Santa Cruz	Teneriffe	Atlantic Ocean	28	27N
Laguna	Ditto	Ditto	28	28N
Palma Isle	Canary Isles	Ditto	28	36N
Hansy	Delhi	India	28	40N
Delhi	Ditto	Ditto	28	43N
Moradabad	Ditto	Ditto	28	52N
Meerut	Ditto	Ditto	29	1N
Hustnapoor	Ditto	Ditto	29	7N
Panniput	Ditto	Ditto	29	23N
Lassa	Tibet	Ditto	29	30N
Arisdong	Ditto	Ditto	29	49N
Almora	—————	Ditto	29	35N
Suez	Egypt	Africa	29	50N
Lolldong	Delhi	India	29	52N
Coquimbo	Chili	South America	29	54 S
Hurdwa	Delhi	India	29	57N
New Orleans	Louisiana	America	29	58N
Cairo	Egypt	Africa	30	3N
Serinagur	Serinagur	India	30	11N
Pensacola	West Florida	North America	30	22N
Marocco	Barbary	Africa	30	32N
Debalpoor	Mooltan	India	30	43N
Bussora	Irac	Persia	30	45N
Dewarcote	Serinagur	India	30	59N
Mooltan	Mooltan	Ditto	30	35N
Ludeanah	Delhi	Ditto	30	53N
Gangoutri	Serinagur	Ditto	31	4N
Alexandria	—————	Egypt	31	13N
Umrutseer*	Lahore	India	31	34N
Jerusalem	Palestine	—————	31	46N
Lahore	Lahore	India	31	50N
Savannah	Georgia	North America	31	55N
Nurpoor	Lahore	India	32	12N
Nanking	—————	China	32	5N
Cote Kaungra	Lahore	India	32	20N
Ispahan	—————	Persia	32	25N
Nangasaki	—————	Japan	32	32N

* Good camels are to be had here at about fifty rupees each.

Names of Places.	Provinces.	Countries.	Deg.	Min.
Tyre	Palestine . .	—	32	32 N
Gujerat	Lahore	India	32	35 N
Bermuda	Bermuda Isles.	Atlantic . . .	32	35 N
Funchal	Madeira	Ditto	32	38 N
Lahore	Lahore	India	32	40 N
Tripoli	Barbary	—	32	54 N
Charleston . . .	South Carolina	America	32	45 N
Palmyra, ruins .	—	Syria	33	0 N
Jamboe	Lahore	India	33	0 N
Candahar	—	Candahar . . .	33	0 N
Petropawloskoi .	—	Kamschatka . .	33	1 N
Valparaiso . . .	Chili	South America	33	3 S
Attock	Lahore	India	33	6 N
Damascus	Syria	Turkey	33	15 N
Bagdad	—	Arabia	33	20 N
Peshawer	Cabul	India	33	22 N
Balbec, ruins . .	Syria	—	33	30 N
Fass	Marocco	—	33	30 N
Sidon	Palestine . . .	—	33	33 N
Ghizni	Cabul	India	33	36 N
Kaapstad (Cape Town)	{ Cape of Good Hope }	Africa	33	56 N
St. Jago	Chili	South America	33	30 S
Jelalabad	Cabul	India	34	6 N
Sallee	—	Marocco	34	10 N
Tripoli	Syria	Turkey	34	20 N
Cashmere	Cashmere	India	34	20 N
Cape of Good Hope }	—	Africa	34	29 S
Mequinez	—	Barbary	34	30 N
Cabul	Cabul	Afghanistan . .	34	31 N
Buenos Ayres . .	La Plata	Paraguay . . .	34	35 S
Duchenparah . .	Cashmere	India	34	51 N
Lahdack	Lahdack	Himalaya . . .	35	0 N
Ceuta	Fass	Marocco	35	4 N
Candia (Ancient Crete)	Grecian Isles .	—	35	19 N
Tetuan	—	Barbary	35	40 N
Aleppo	Syria	Turkey	35	45 N
Malta	{ Mediterranean Sea }	—	35	54 N
Santa Fé	New Mexico . .	America	36	0 N
Gibraltar	—	—	36	5 N
Antioch	Syria	Turkey	36	10 N

Names of Places.	Provinces.	Countries.	Deg.	Min.
Jeddo	—	Japan	36	20 N
Rhodes	Rhodes, Is. of	Levant Sea . .	36	20 N
Cadiz	Andalusia . .	Spain	36	31 N
Alexandretta .	Syria	Turkey	36	35 N
Conception . .	Chili	South America	36	43 S
Tunis	—	Barbary	36	47 N
Algiers	—	Ditto	36	49 N
Syracuse . . .	—	Sicily	36	58 N
Williamsburg .	Virginia . . .	America	37	12 N
Seville	Andalusia . .	Spain	37	15 N
Corinth	Morea	Greece	37	30 N
Carthage . . .	Murcia	Spain	37	37 N
St. Michael's Is.	Azores	Atlantic	37	47 N
St. Paul (Island of)	Indian Ocean .	—	37	52 S
Ephesus	Natolia	Turkey	38	1 N
Athens	Livadia	Greece	38	5 N
Tauris	—	Persia	38	20 N
Alicant	—	Spain	38	21 N
Smyrna	Natolia	Turkey	38	28 N
Pico	Azores	Atlantic	38	29 N
Palermo	—	Sicily	38	30 N
Messina	—	Ditto	38	30 N
Fayal (town) .	Azores	Atlantic	38	32 N
Angra	Terceira Isle .	Azores	38	39 N
Lisbon	—	Portugal	38	42 N
Ivica Isle . . .	—	Spain	38	58 N
Washington . .	Maryland . . .	North America	38	57 N
Bucharia	—	Turkey	39	15 N
Cagliari	—	Sardinia	39	25 N
Flores	Azores	Atlantic	39	34 N
Baldivia	Chili	South America	39	35 S
Majorca	{ Mediterra- } { nean Sea }	Spain	39	35 N
Toledo	—	Ditto	39	50 N
Port Mahon . .	Minorca	Ditto	39	51 N
Peking	—	China	39	54 N
Erzerum	—	Turkey	39	56 N
Philadelphia . .	Pennsylvania .	North America	39	57 N
Burlington . .	Jersey	Ditto	40	8 N
Noriton	Pennsylvania .	Ditto	40	9 N
Madrid	—	Spain	40	25 N
Samarcand . . .	Usbec Tartary	—	40	40 N
Salonica	Macedonia . .	Turkey	40	41 N
New York . . .	—	North America	40	43 N

Names of Places.	Provinces.	Countries.	Deg.	Min.
Naples	_____	Italy	40	54N
Constantinople .	_____	Turkey	41	1N
Oporto	_____	Portugal	41	10N
Lintz	_____	Austria	41	16N
Barcelona	Catalonia	Spain	41	23N
Newport	Rhode island	North America	41	35N
Derbent	_____	Persia	41	41N
Adrianople	Romania	Turkey	41	45N
Trebisond	_____	Ditto	41	50N
Providence	New England	North America	41	50N
Rome (St Peter's)	_____	Italy	41	54N
Civita Vecchia . .	_____	Ditto	42	5N
Vigo	Galicia	Spain	42	14N
Boston	_____	North America	42	25N
Albany	New York	Ditto	42	39N
Bastia	Corsica	_____	42	42N
Ragusa	Dalmatia	_____	42	45N
Toulon	_____	France	43	7N
Narbonne	_____	Ditto	43	11N
Marseilles	_____	Ditto	43	18N
Agde	Herault	Ditto	43	19N
Cette	Ditto	Ditto	43	24N
Frejus	_____	Ditto	43	26N
Bilboa	Biscay	Spain	43	26N
Ferrol	Galicia	Ditto	43	29N
Bayonne	_____	France	43	29N
Tefis	Georgia	Persia	43	30N

According to general opinion, the Southern Hemisphere is colder by ten degrees than the Northern; but if it were only five degrees colder, it would include the following additional corresponding climates.

Names of Places.	Provinces.	Countries.	Deg.	Min.
Leghorn	_____	Italy	43	33N
Castres	Tarn	France	43	36N
Montpelier	_____	Ditto	43	37N
Ancona	_____	Italy	43	38N

Names of Places.	Provinces.	Countries.	Deg.	Min.
St. Maloes . . .	_____	France . . .	43	39N
Nice	Piedmont . . .	_____	43	42N
Pisa	Tuscany . . .	Italy . . .	43	43N
Florence . . .	Ditto . . .	_____	43	46N
Alby	Tarn . . .	France . . .	43	55N
Avignon . . .	Vaucluse . . .	Ditto . . .	43	57N
Genes	Savoy . . .	Italy . . .	44	25N
Genoa	_____	Ditto . . .	44	25N
Bucharest . . .	Walachia . . .	Russia . . .	44	26N
Bologna . . .	_____	Italy . . .	44	29N
Modena . . .	_____	Ditto . . .	44	34N
Parma	_____	Ditto . . .	44	45N
Halifax . . .	_____	NorthAmerica	44	46N
Bordeaux . . .	Gironde . . .	France . . .	44	50N
Ferrara	_____	Italy . . .	44	54N
Turin	Piedmont . . .	Ditto . . .	45	5N
Agen	Aveiron . . .	France . . .	45	12N
Mantua	_____	Italy . . .	45	20N
Padua	_____	Ditto . . .	45	22N
Venice	_____	Ditto . . .	45	26N
Verona	_____	Ditto . . .	45	26N
Milan	_____	Ditto . . .	45	28N
Montreal . . .	_____	UpperCanada	45	35N
Lyons	_____	France . . .	45	45N
Clermont . . .	_____	Ditto . . .	45	46N
Rochfort . . .	_____	Ditto . . .	45	56N
Rochelle . . .	_____	Ditto . . .	46	9N
Geneva	_____	Ditto . . .	46	12N
Lausanne . . .	_____	Switzerland .	46	31N
Chalons	_____	France . . .	46	46N
Quebec	_____	UpperCanada	46	55N
Jassy	Moldavia . . .	Russia . . .	47	8N
Nantes	_____	France . . .	47	13N
Dijon	_____	Ditto . . .	47	19N
St. John's . . .	_____	Newfoundland	47	32N
Constance . . .	Suabia . . .	Germany . . .	47	37N
Buda	Hungary . . .	_____	47	40N
Orleans	_____	France . . .	47	54N
Munich	_____	Bavaria . . .	48	9N
Vienna	_____	Austria . . .	48	12N
Brest	Finisterre . . .	France . . .	48	23N
Chartres	_____	Ditto . . .	48	25N
Morlaix	_____	Ditto . . .	48	31N

N.B. The generality of geographical tables, being alphabetical, are only intended to show the *latitude and longitude* of a place; but the above List will be found a far more convenient vehicle of reference, when it is required to know *what place* lies upon any given parallel of latitude; whereas it would consume a great deal of time in looking for it in an alphabetical table.

A Circular Letter addressed to the Noble and Wealthy Friends of Australasia, to the Friends of the Poor, and to the Friends of Emigration.

MY LORD AND HONOURABLE SIR,

THE present crisis of the public interests of Great Britain, demands the anxious meditation and reflection of every well-wisher to his native country; and it becomes a duty in every one to lend his assistance, either by word or deed, to extricate our country from its present difficulties.

It is unnecessary to waste time by calling your attention to the circumstances, that we have at home a much larger population than is required to execute either the agricultural or mechanical labour of the empire; and that all who are not so employed (with some few exceptions) are a burden upon the rest of the community, and of no benefit to the country. It is also incontestibly true, that thousands of our poor fellow-subjects scarcely know where to earn a bit of bread, or whither to lay their head.

Our colonies are boundless in extent, and that which carries the palm for fineness of climate, is Australia, where labourers are much wanted. Ample employment for ten times the number of those we have to spare may be found in that colony, and the future advantages likely to result to the general interests of the British Empire, were the emigrating portion of our overflowing poor population conducted thither on a grand scale, are almost incalculable; but the expense of sending them out, is the great obstacle.

The superiority of our Australian Colonies over all others is immense, and from their situation as regards our Indian empire, their value at present is inappreciable. They are particularly salubrious, and at no time likely to involve us

in war and expense, as our Canadian Possessions have done, and it is to be feared, will do again and again : the superior security which the settlers in consequence would always enjoy, must ever be accounted a great inducement and recommendation ; whilst every British subject landed there would add to the internal strength thereof, and be an accession of strength to the empire at large ; would in a short time become a consumer of some part of our manufactures ; and the colonies themselves, I have no doubt, would, in a few years, be not only able to defend themselves from the attacks of foreign enemies, but be able to afford a quota towards defending any of our other possessions in the East that might be threatened.

The multitudes leaving this country for the Canadas is much to be regretted, as they will be exposed at some future day to the danger of being disturbed in their possessions. Nothing can prevent that portion of the British Colonies from being united to the American States ; from their proximity to that rising power, being of the same religion, speaking the same language, &c., when their arms will be turned against ourselves, and they will also be engaged against us in the various manufactures in which the Americans are striving to rival us ; but the case is widely different in Australia, where all these untoward events cannot even be anticipated for generations to come ; and the Indian tribes not being in sufficient numbers to give the settlers any trouble, they have no prospect of being molested by any other enemy.

The object of this letter is to propose a plan for enabling the humbler classes, and men of humble capital, to proceed to Australia. I therefore beg to submit for your consideration the propriety of forming a society for that purpose, to be denominated *The Society for the Promotion of Free Emigration to the Colonies of Australasia*, and by raising subscriptions, form a fund, which should be sanctioned and

promoted by Government, by a Parliamentary annual grant of a small sum of money.

The next step should be the obtaining a grant of land in Australia, for the purpose of assisting the society's funds, (upon the same principle as the Australian Agricultural Association), the profits of which should be employed from year to year in assisting emigrants, instead of going into the pockets of the members of the society. I do not see why this plan should not answer for a charitable society as well as for a public company.

The next step would be, the obtaining the loan of a few frigates from the Admiralty, which I have no doubt Government would be induced to fit up for the express purpose of conveying the emigrants, for which they are admirably adapted from their size, superior accommodations, and sailing, and they would take very little more injury in that employment than they now do laying by. Each frigate could easily carry out 500 emigrants, and I should also conceive, that they might be loaded home with valuable timber for our dock-yards, which would help to defray part of the expense.

That no feelings of disgust might be excited in the minds of that class of labourers which it is here contemplated to send out, by the idea of working side by side the convict labourers, I should think some spot might be found on the south coast of Australia at which to form a settlement; for although the appearance of that coast in many places may be in some respects forbidding, there are others presenting a very fertile and luxuriant aspect, and the interior every where may be better: there are also several good harbours on the north-west coast, and a colony at one of them would be a very desirable thing.

There are many industrious young men in the United Kingdoms possessing from £100 to £200, who, with a grant of two hundred acres, or a quantity of land proportionate to

the money they possess to begin with, would soon become in those colonies a useful and valuable class of society, and who would also find employment for thousands of labourers from this country; but to such as these, a *passage free of expense* is indispensable; as it would absorb too much of their small capital to pay their own passage money. How little good will £200 do a man in England who has nothing else, and in what trade could he embark with so small a capital to enable him to obtain a comfortable livelihood out of the interest?

It would appear that the colonists, according to the latest accounts, are much in want of labourers, and that the wages of a free labourer are from £15 to £20 per annum, together with liberal rations to subsist on. How many thousands of our labouring population would rejoice to be enabled to obtain so comfortable a living. In many parts of England, the utmost a farming labourer can earn is from about nine to twelve shillings a week, out of which he has to pay his rent and find his wife and family in every necessary; whilst the very convicts transported for the basest crimes, are there living in the enjoyment of every comfort man can almost wish for, excepting liberty; their weekly rations being four quartern loaves and seven pounds of fresh meat, besides tea and sugar. Many of our labourers scarcely ever taste meat at home!

The society should be formed exclusively for the purpose of assisting *distressed labourers and men of humble capital* to emigrate to Australia, by paying their passage money and that of their families. The system of emigration has but few enemies, and I should think none would be found to object to an Institution formed for so benevolent and useful an object. I feel confident that if the members of Government, the wealthy and charitably disposed, were to set the matter a going, and give it their countenance and support, a fund might soon be raised; and in parti-

cular, if the frigates were furnished by Government, the only expense then, would be the wages of the crew and victualling for the voyage.

Agents being ready to receive the emigrants in Australia as they arrived, to whom all applications for free labourers should be addressed by the colonists; when the system was once known there, the agents would have little else to do than to forward them to their respective masters, when they would thus be provided for.

Arrangements might also be made between the agent, the labouring class and their several employers, for the former to receive of the latter, the wages of that class for three or four years, as a set off against the expense of carrying them out, which, as they would be victualled and found in every thing but clothing, they could very well afford to give up; at the same time a small portion should be reserved for the latter article. And such emigrants as possessed a small capital sufficient to enable them to begin business for themselves, should be bound down to pay theirs by instalments, in four or five years; the principal object with this class, being to keep their bit of money together, that they might begin at once on their own account.

Thus I think it is possible, without burden to the nation or much inconvenience to individuals, to enable a considerable number of industrious hard-working men to better themselves and families; and instead of pressing as they now do on their respective parishes by their increasing numbers, would there become consumers of our manufactures, and a great benefit to the empire.

The immense continent of Australia would become entirely British, if this plan were persevered in for a length of time; and there could never be any fear of overstocking that fine country with population. Besides, in proportion as the United States do every thing to blast and injure the

prosperity of Great Britain, so would the advantages which would accrue to our commercial interests by this rapid and extensive spread of population in Australia, and creation of fresh consumers, be of vital importance to our manufactures; to say nothing of the benefits that would thus be conferred on our shipping interests, and in the increase of seamen.

There are innumerable other advantages which deserve the consideration of every well wisher to Great Britain; but in the short space of a letter, it is impossible to expatiate so largely upon the subject, as from its interesting nature it merits.

I beg leave to suggest the following heads for the formation of the society:

1st. That a meeting be called in London, to consider the plan of a society to be formed for the purpose of enabling men of small capital and poor labourers to proceed to Australasia; the immediate object of which, should be to defray the expense of their passage.

2nd. That with this view, the nobility and gentry of philanthropic and benevolent dispositions throughout the three kingdoms, be requested to come forward and join their subscriptions to raise a fund to begin with.

3d. That a nobleman be selected as president of the society; twelve noblemen and gentlemen as vice-presidents; i. e. one to do duty each month; and twenty-four gentlemen as a provisional committee, for conducting the affairs of the society, who should afterwards be called a board of directors.

4th. That the number of subscribers among the noble and wealthy friends of Australia, both at home and abroad, the friends of our poor and the friends of emigration, be unlimited.

5th. That application be made to Government for a grant of one million of acres of land; the entire profits of which

be joined to the funds of the society, and laid out annually in paying the passage money of voluntary poor emigrants and young men of humble capital.

6th. That application be made to the Admiralty for the loan of a few frigates, the same being fitted up at the expense of Government.

7th. That several bankers be chosen in London, and at Portsmouth, Plymouth, Liverpool, Edinburgh, Glasgow, Dublin, and Cork, to disburse payments to captains of merchant ships sailing from those ports respectively, for the passage money of emigrants embarking therefrom.

8th. That agents be appointed at the different settlements in Australasia, to receive emigrants on their first arrival, and provide them with employers.

9th. That each member of the society have the privilege of recommending a poor man or a family, or more than one, according to the amount of his subscription, to the benefit of the society's free passages.

10th. That books be opened at the private banking houses in all the towns of the Empire, to receive subscriptions, and to register the names of permanent subscribers.

11th. That the extent of the number of emigrants to be furnished annually with free passages, must necessarily depend, for the first four or five years, upon the amount of the subscriptions; by which time the society's land would begin to make a handsome return of profit in aid of the charity, and perhaps sooner, when the amount of subscriptions might be reduced.

12th. That it is hoped the subscriptions of this society, together with the profits of the land, would amount to £60,000 per annum, or thereabouts, which would pay for the passages of 2000 emigrants annually, at £30 each, which is the usual sum now demanded by the captains of ships in the Australian trade.

13th. That this is a national object, and highly deserving

the attention of every British subject, both at home and abroad.

Much might be done by a society of this kind, towards relieving the kingdom of its excessive population, without causing any fresh burden in the shape of taxes to be laid on the nation; while it would at the same time confer numerous blessings on the industrious poor, thousands of whom would in the course of years become wealthy settlers.

It is with the greatest deference I presume to offer the foregoing ideas for your consideration; and I humbly hope that you will afford your countenance and support to a plan which seems to promise to be the only efficient one for promoting and assisting the emigration of the poor to the distant but invaluable colony of Australia.

I have the honour to be,

My Lord, and Honourable Sir,

Your most obedient and

Most humble Servant,

September, 1828.

. The writer of the foregoing letter was for some years a trader among the Oriental Islands, but on retiring from the sea service, he became a large Farmer, in which avocation he, in a similar manner to the Author, had lamentable opportunities of witnessing the bad prospects of the Poor in England.

EXPLANATION

OF

THE MAP AND PLATES.

THE MAP.

THE situation of the great salt river Wellington, discovered by Capt. Sturt, in January 1829, is distinguished in the map by an arrow, which also denotes the direction of its course; but as the map was drawn in 1827, I thought it not worth while to alter it, and therefore allowed it to be engraved as first drawn, representing a number of streams flowing from the eastern mountains, all uniting in a supposed *dead level*, from whence it forms a large river to Buccaneer's Archipelago and neighbourhood. I also supposed a succession of ranges of hills extending from the west coast (Moresby's Flat-topped range) towards the interior, and enclosing a high table land, from whence other streams might direct their course to the dead level, and perhaps form one or more sheets of water, as the formation of lakes is one of nature's great features in Australasia.

The most interesting unexplored inlets on the east coast are abreast of Frankland's islands, Rockingham Bay, Capes Bowling Green and Upstart, Repulse Bay, Shoalwater Bay, &c.; where the very shoals are evidences of the mouths of streams.

Notwithstanding the difficulty of landing at the bottom of Carpenter's Gulf, on account of the extreme shallowness of the water, yet there are undoubtedly several streams on that coast, the principal of which are Maatsuyker's river, River Caron, and another unchristened.

On the first rumour (in 1828) of a colony being formed at Swan River, I inserted at a venture the latin name of London, "Londinium," merely as a suggestion; there being no place of this name in the world. The public are aware that a town is marked out, twelve miles up the Swan River, and named Perth; (a name, by the bye, that will attract precious few emigrants,—there is a great deal in a name;) a second at the entrance of the river, named Freemantle; and a third on the river banks, named Guildford.

A number of sandy beaches, and breaks in the cliffs of the south coast, are distinguished by the names of Ramsgate sands, Margate sands, Deal beach, &c. &c.

There is incontrovertible evidence of the existence of a large mass of fresh water somewhere between Fowler's Bay and Streaky Bay, and the probability is that it is a river, as a great many fresh-water productions, both animate and inanimate, were found washed into the sea by Captain Flinders.

The tropical portion of the continent is distinguished as "Australindia," and the southern as "Anglicania."

The route from Mount Granard, recommended for a surveying expedition, is shown by a diagram of dotted lines, &c. It is supposed that the expedition would move from Mount Granard A towards depot B, but halts at station a, which the commandant surveys, while two detachments severally

survey 2 and 3. The next station, *b*, the commandant also surveys, while two parties severally perform surveys at 2 and 3. And at depot B the expedition halts to await the arrival of a convoy with supplies, which, when received, the expedition proceeds as before. The distance from station to station is one hundred miles, and from depot to depot three hundred miles.

PLATE I.

(THE EXPEDITION CROSSING A RIVER IN AUSTRALIA.)

Represents a party crossing a broad river. A couple of tents and a flag-staff are pitched on the distant opposite bank, near five palm-trees. An officer's tent (called a rowtee, without a middle pole) and a private's tent, stand in the foreground, near two palms. These trees are the *Fan Palm*, and are very correctly represented: each branch bears but one leaf, somewhat like a fan; they generally have from twenty to forty or more of these leaves, but I intentionally traced so few in order to display their shape.

The two horses in the foreground, in different positions, show the method of carrying the basket-boats; the individual near the white horse is supposed to be clad in a coat of mail.

The jungar (raft) on the river is made by joining two canoes together with a platform, on which are four horses, surrounded by a hand-rail. Three rowers at the head and stern of each canoe, making twelve altogether, is the complement to row it across. The five basket-boats on the river are crossing loaded, and returning empty to take up baggage. These basket-beats are about thirty inches deep, and are of different diameters, varying, in India, from seven to ten or twelve feet.

They are formed of plaited *ground-rattan*, or sometimes of bamboo in its soft green state, and are covered on the outside with buffalo or bullocks' hides sewed together: the largest boat will carry twenty-five men or a cannon. The width of the split material (bamboo or ground-rattan) should not be less than one inch, nor more than one and a half inch, to plait with; and it should not be split too thin; but the basket may be strengthened by doubling or trebling the material when it is too thin. The edges of the bottom should not be made sharp or angular, as it would break the material, but they should be rounded off; and the hides should be sewed with thin thongs of skin or of the same hide. The hides should also be well greased, to preserve them, and render them supple.

PLATE II.

CARRYING LARGE CANOES WITH THE EXPEDITION IN AUSTRALIA.

This plate is intended to shew the best method of carrying canoes. It is, by yoking four horses together, two and two, placing poles across their saddles, from whence a canoe is slung between them; it may be hoisted up by ropes and pulley-blocks, (in the same manner that a boat is hoisted on board ship,) and, when on a level with the saddle-poles, may be secured by passing the mooring chains round it. The planks of the platform, &c., may be stowed in the canoes. The bullocks are represented as laden with provisions; a much better method than harnessing them to carts.

PLATE III.

THE EXPEDITION IN A DESERT IN AUSTRALIA.

A train of camels is seen passing through a defile of rocky

hills. Each camel is laden with a pair of Persian chairs similar in shape to a sedan, but made of bamboo and rattan for lightness. Such were the vehicles in which the Monarchs of Persia used to convey their female beauties when marching with the army; and provided an exploring party could be supplied with camels, I do not see why the same kind of machines would not serve the gentlemen to ride in. The camel in the foreground is laden with tin casks of water, japanned outside to preserve them from rust; those in the distance are laden with tents, poles, and provisions.

Although the Arabs when travelling in the Desert of Sahara in Africa, sleep on the ground, and we do not hear of their being subject to any particular disease on that account, yet it is a well known fact (and I have heard it from the soldiers' mouths who were sufferers in Egypt), that people who sleep on saltpetre ground acquire very severe rheumatic complaints, which stay by them the remainder of their lives. Travellers in a salt desert in Australia, or where the soil is aluminous, should sleep in hammocks swinging between two triangles of bamboo, six feet high, steadied by a rope at each end tied to pegs driven into the ground. If the height of the triangles be six feet, there will be a space between the hammock and the ground of three or four feet.

PLATE IV.

PLAN OF A TOWN FOR AUSTRALIA.

The general principles, of which this plate is intended to display merely an outline, are these; 1. That the two capital streets should cross each other at right angles in the *centre* of every town; that they be pretty wide at one end and narrow at the other, and that the widest end be always at the bottom of the hill or slope when the site of the town

occupies the side of a hill or slope. These two grand streets being intended for the wealthy, will thus afford the enlivening scene of a panoramic view of both sides, displaying, at one coup-d'œil, all the wealth, fashionable equipages, buildings, and life of their inhabitants. 2d. That a park surround every town, like a belt one mile in width, (the park could not be included in the plan for want of room), which should not be disfigured by the wearisome uniformity of straight avenues of trees, although there should be trees round the outward circumferential line of the park. 3d. That the churches and cemeteries be placed outside all the buildings of every town. 4th. That every street open out into the park, and that each be distinguished by something different in its plan as well as architecture or style of building, viz. that some be a series of crescents, some convex, others concave;—some with wings, others straight, &c., and that in addition to the names of the five orders of architecture of Italy and Greece, the Mauresque (Moorish), the Gothic, the Egyptian (Theban), the Hindoo, and even the Chinese, be made use of in the nomenclature of the streets according to their different styles, adding thereto the quarter of the town, as east or west, north or south. 5th. That every street and every house, be, by law, obliged to be built with verandahs supported on substantial stone or brick pillars or columns.

The following are the references to the Plate.

No. 1, Governor's Palace; 2, 2, Horse and Foot Barracks; 3, 3, Churches; 4, Commander-in-Chief's; 5, Admiralty; 6, 6, Markets; 7, 7, Palaces for the Members of Council; 8, 9, Senate Houses, or Lords and Commons; 10, 10, Theatres; 11, 11, Courts of Law and Justice; 12, Exchange; 13, Mayor's Palace; 14, the Guildhall; 15, the Cathedral; 16, 16, Prisons; 17, 17, Cemeteries.

Royal Composite Street is about three miles in length; and Composite Street from the Cathedral to the other end, is about four miles and three quarters: this may read somewhat like an extravagant idea, but it is not so long as a street that would reach from one end of London to the other. London is, and ever will be, a labyrinth of difficulties, fatigues, and ugliness to foreigners and strangers who are perpetually losing themselves in it; and all for want of the streets being made straight and well planned at its first foundation. It is to be wished that the Local Government and wealthy Australians would do things well from the beginning. When once a site is fixed upon for a metropolis, spare no pains to ensure regularity, pleasing variety, stability and beauty.

PLATE V.

A COLONIAL FLAG.

The sheet of the flag is yellow, and in the centre is the following coat-of-arms, viz.: The crest, a lion rampant guarding a red banner, on which is inscribed the word "Britannia." The shield is divided into four equal quarters, the two uppermost of which are white. In the centre of the left white quarter is a black and a white hand joined, surrounded by a wreath of palm-leaves, emblem of good-will between white men and their sable fellow-creatures. A lamb supporting a cross, in the centre of the right white quarter, emblematic of the religion of the country. A ship sailing on the sea, occupies the bottom right hand quarter, and is the emblem of commerce. The bottom left hand quarter represents a field of wheat sheaves, the emblem of agriculture and plenty.

428 EXPLANATION OF THE MAP, &c.

The map and plates were engraved by Mr. C. Hullmandel from my own sketches, but they are so much improved, and at the same time the outlines are given with such perfect correctness, that I here beg to return him and his able assistants my best thanks.

THE END.

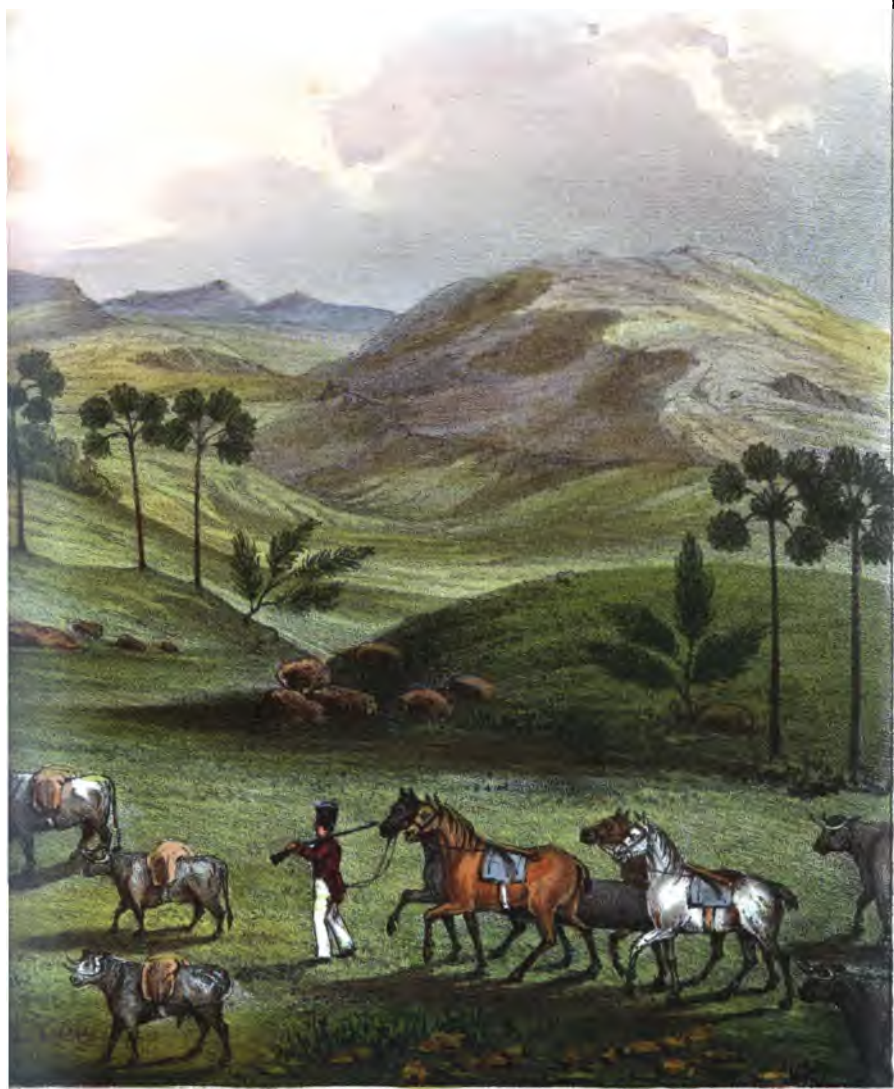
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Drawn for the Friend of Australia .

CARRYING LARGE CANOES with the E,

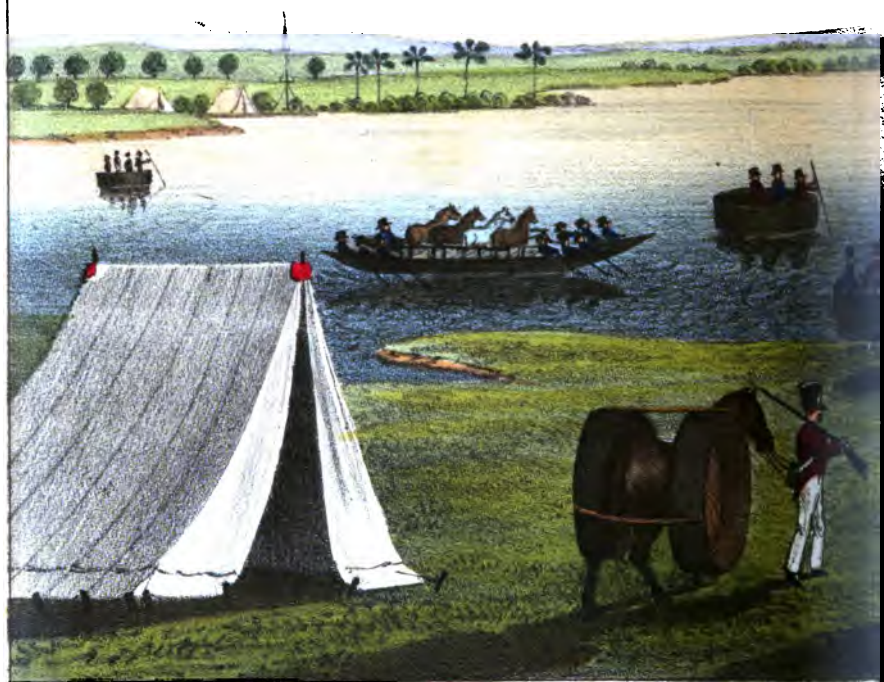
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EXPEDITION in AUSTRALIA .

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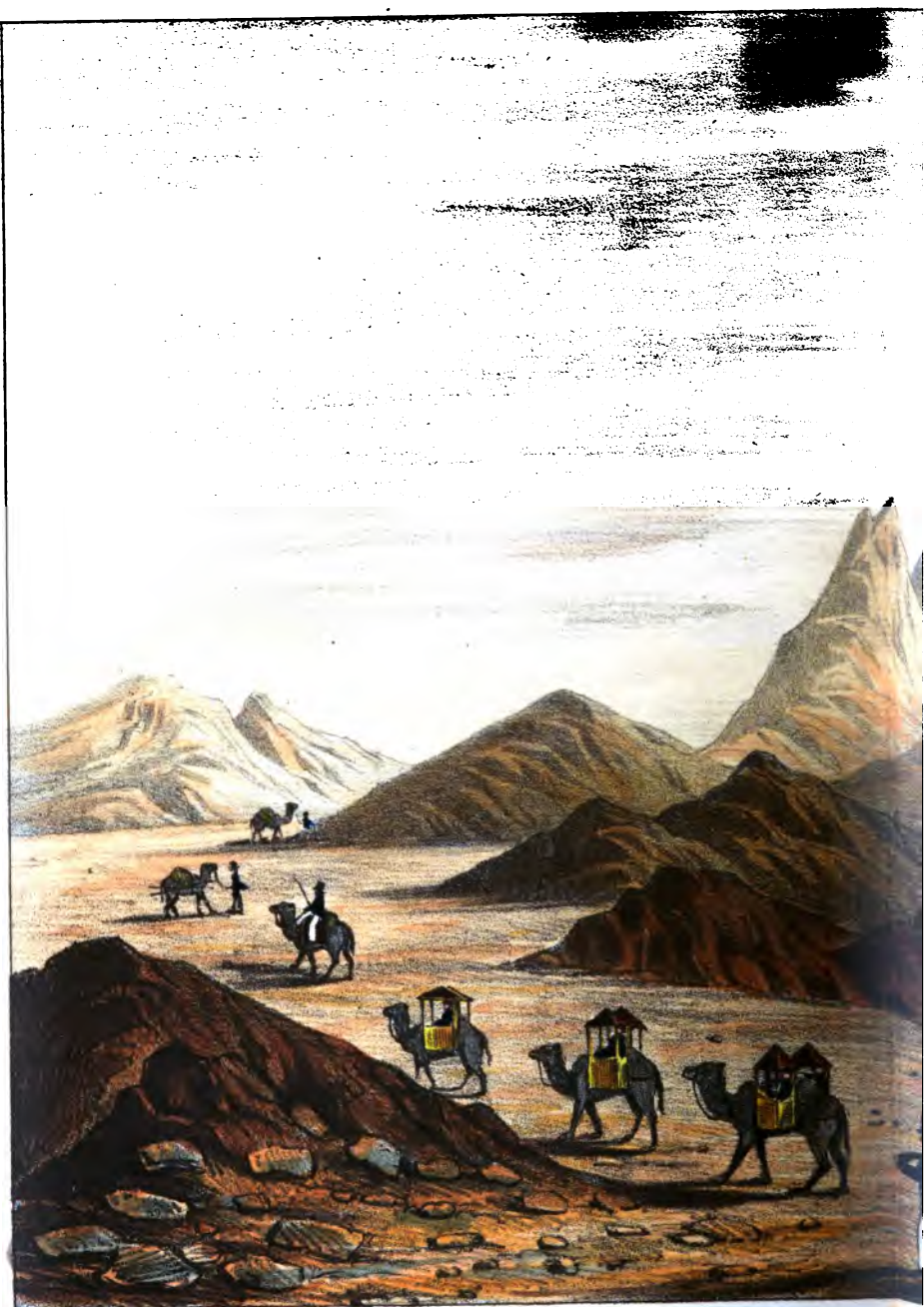
THE EXPEDITION CROSSING

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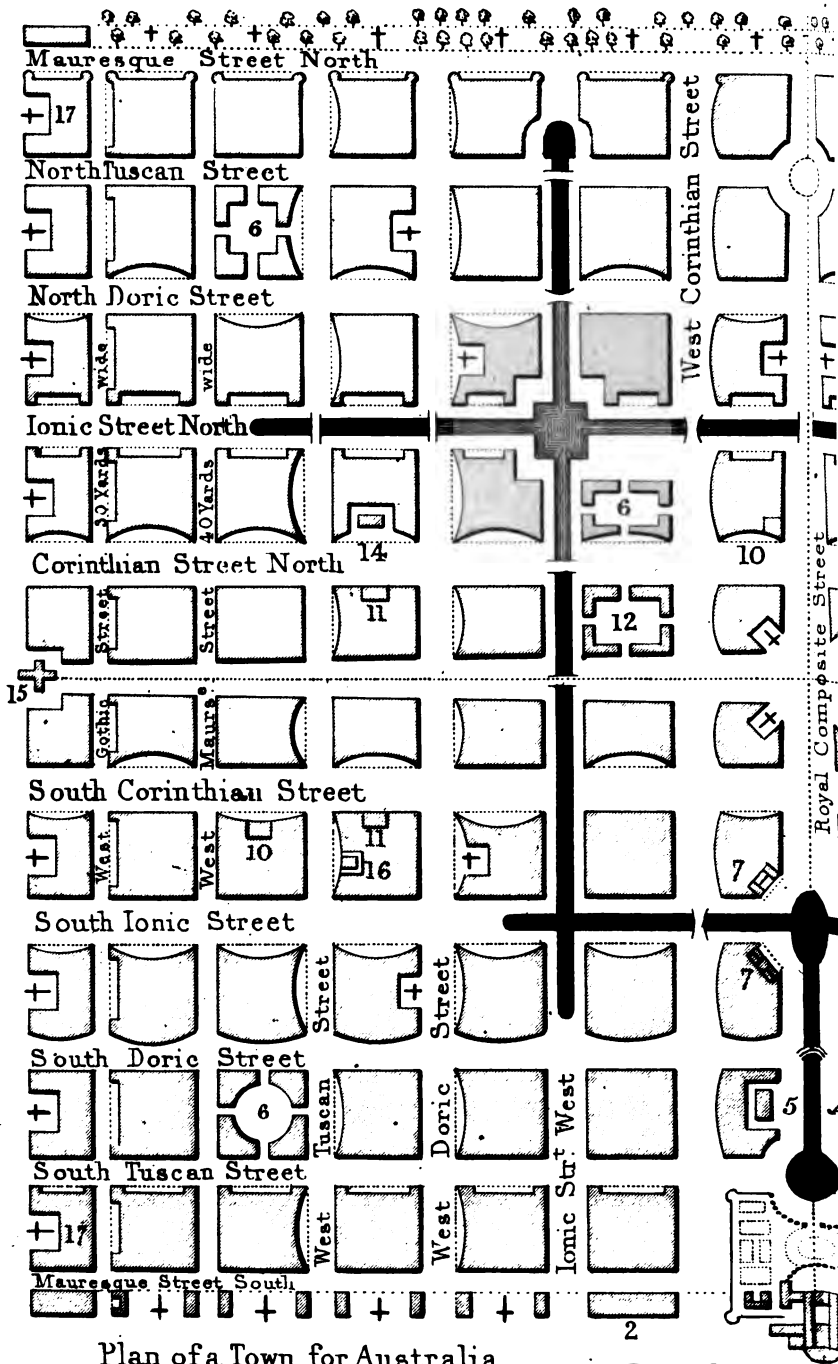
A RIVER IN AUSTRALIA.



Drawn for the Friend of Australia

THE EXPEDITION in a DESERT

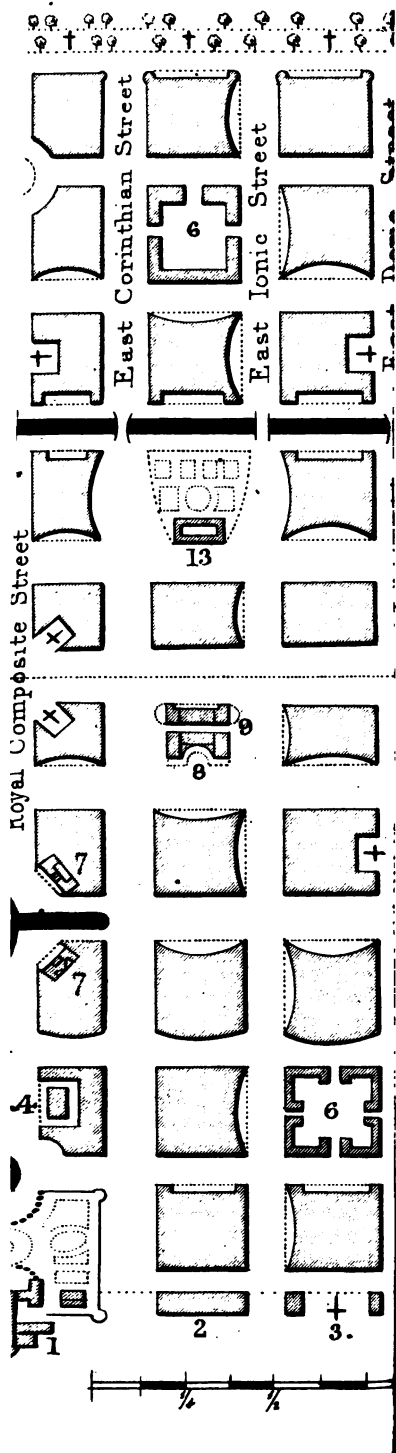




Plan of a Town for Australia .

Lithographed by C. Hullmandel.

of AUSTRALIA.



11

Respectfully submitted for the consideration of Government for the adoption of the Colony of New South Wales.

A Flag or Ensign with coat of arms, for Ships built in Australia. &c.

Explanation.

The flag is yellow (the Imperial Colour of China) emblematical of the similar geographical situation of Australia & that it will arrive at the rank of a powerful Empire.

The crest, a Lion waving a flag with the name of Britannia, to shew that they will stand by their Parent Country to the end of the world.

The coat of arms, divided into four quarters by a gold or yellow cross.

The black & white hand in a white quarter.

The Lamb & cross in a white quarter. The ship and wheat sheaves emblematical of Commerce & Agriculture.

